

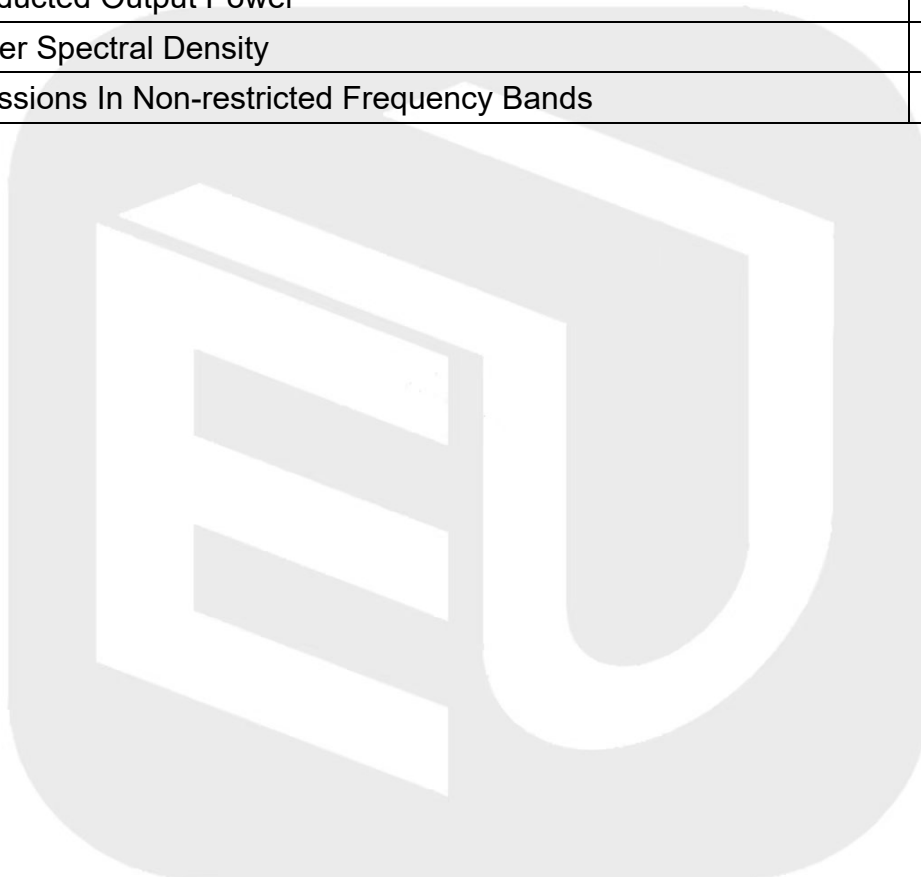
ANNEX E TEST DATA

For

Project No.:	8329EU011107W
Client:	Shenzhen Qianyan Technology LTD
Product Name:	Smart CO ₂ Monitor
Model No.:	H5140
FCC ID:	2A7VD-H5140
Technology:	WiFi 2.4G
Test Engineer:	<i>Mikoy zhu</i>
Test Date:	2025-04-17

Test Summary

Item	Result
Duty Cycle	Pass
Bandwidth	Pass
Maximum Conducted Output Power	Pass
Maximum Power Spectral Density	Pass
Unwanted Emissions In Non-restricted Frequency Bands	Pass



1. Duty Cycle

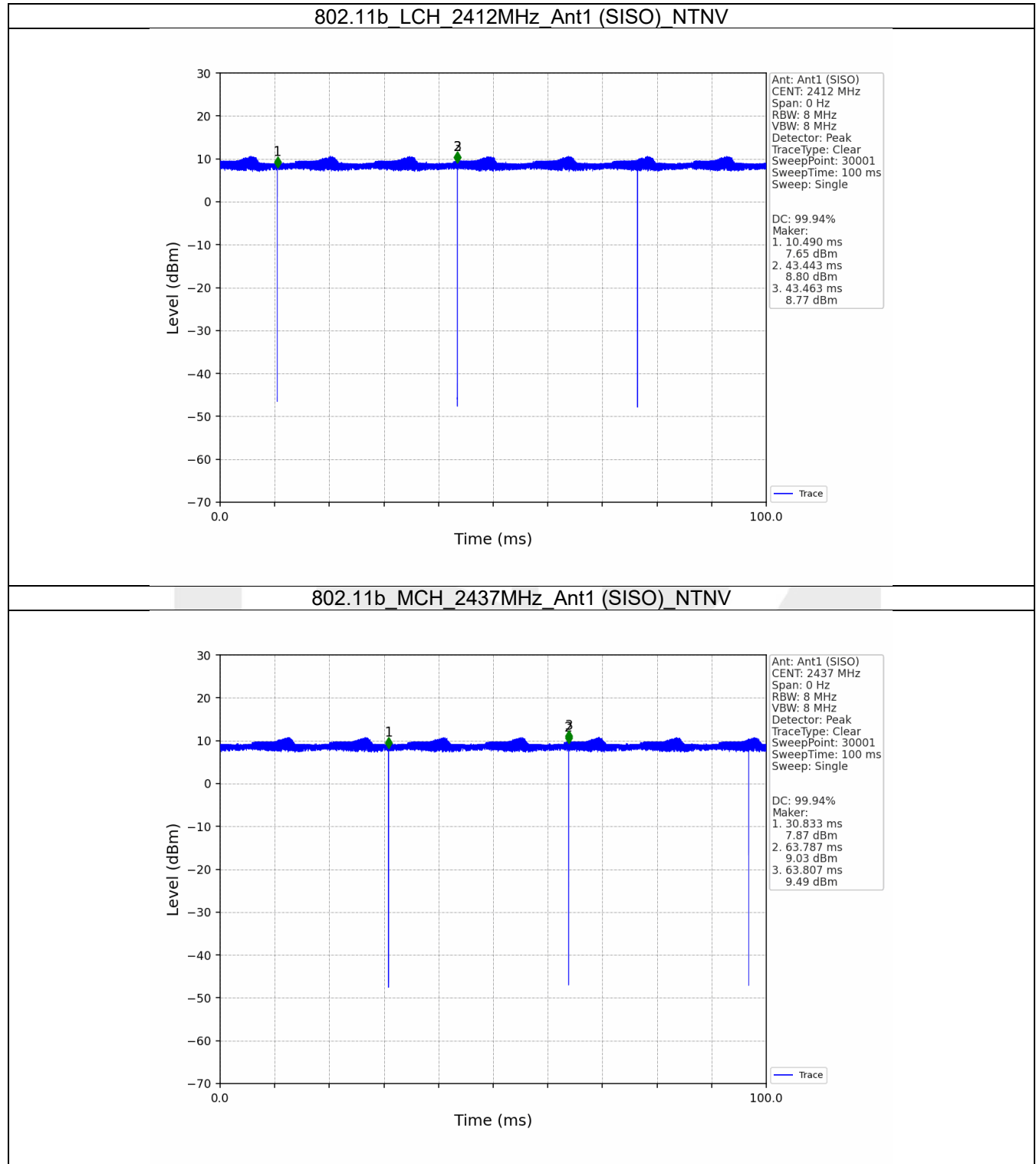
1.1 Test Result

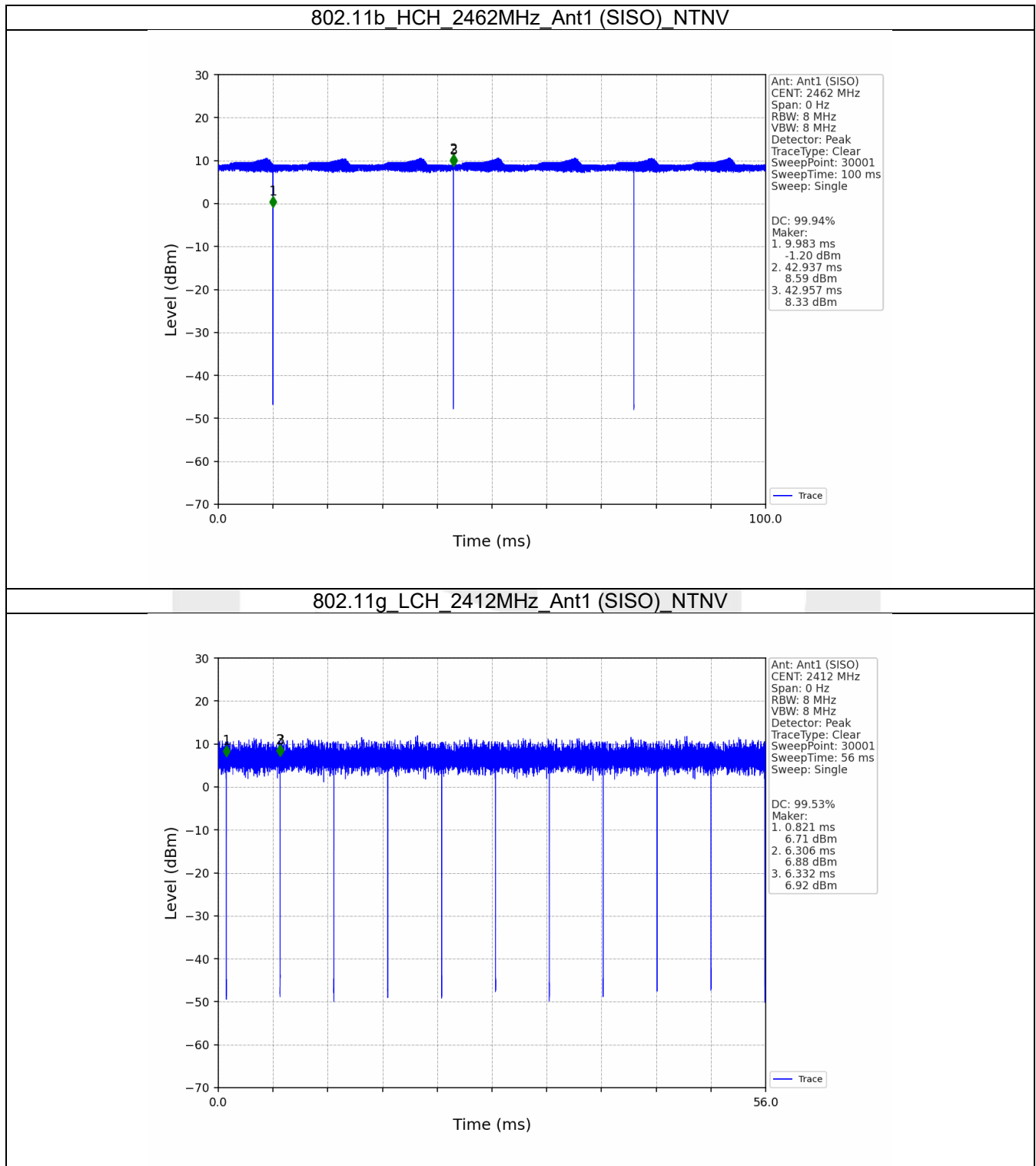
1.1.1 Ant1

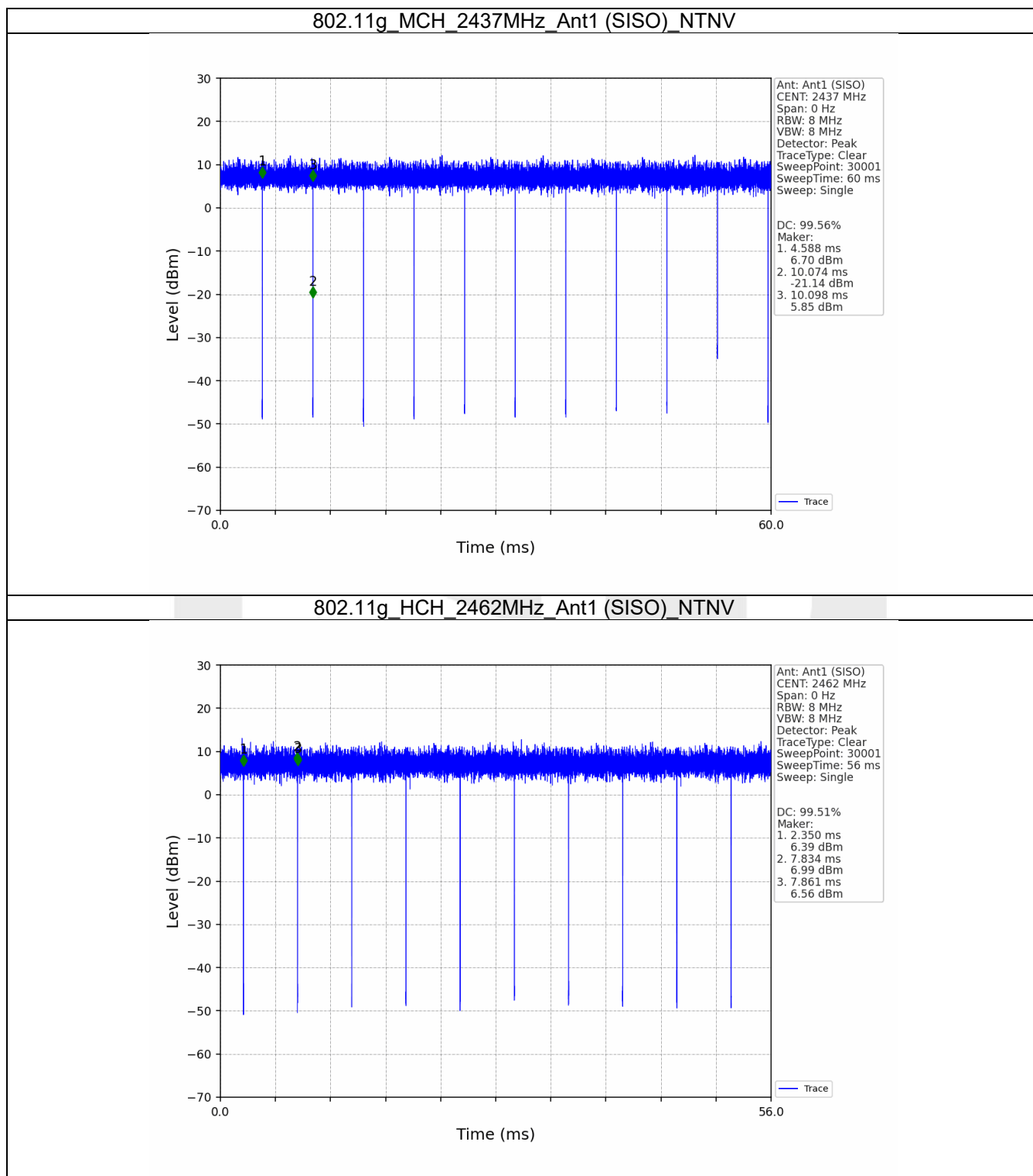
Ant1							
Mode	TX Type	Frequency (MHz)	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	Max. DC Variation (%)
802.11b	SISO	2412	32.953	32.973	99.94	0.00	0.00
		2437	32.954	32.974	99.94	0.00	0.01
		2462	32.954	32.974	99.94	0.00	0.00
802.11g	SISO	2412	5.485	5.511	99.53	0.02	0.03
		2437	5.486	5.510	99.56	0.02	0.20
		2462	5.484	5.511	99.51	0.02	0.03
802.11n (HT20)	SISO	2412	5.079	5.104	99.51	0.02	0.00
		2437	5.079	5.105	99.49	0.02	0.04
		2462	5.080	5.105	99.51	0.02	0.00
802.11n (HT40)	SISO	2422	2.468	2.493	99.00	0.04	0.03
		2437	2.469	2.494	99.00	0.04	0.03
		2452	2.470	2.495	99.00	0.04	0.03

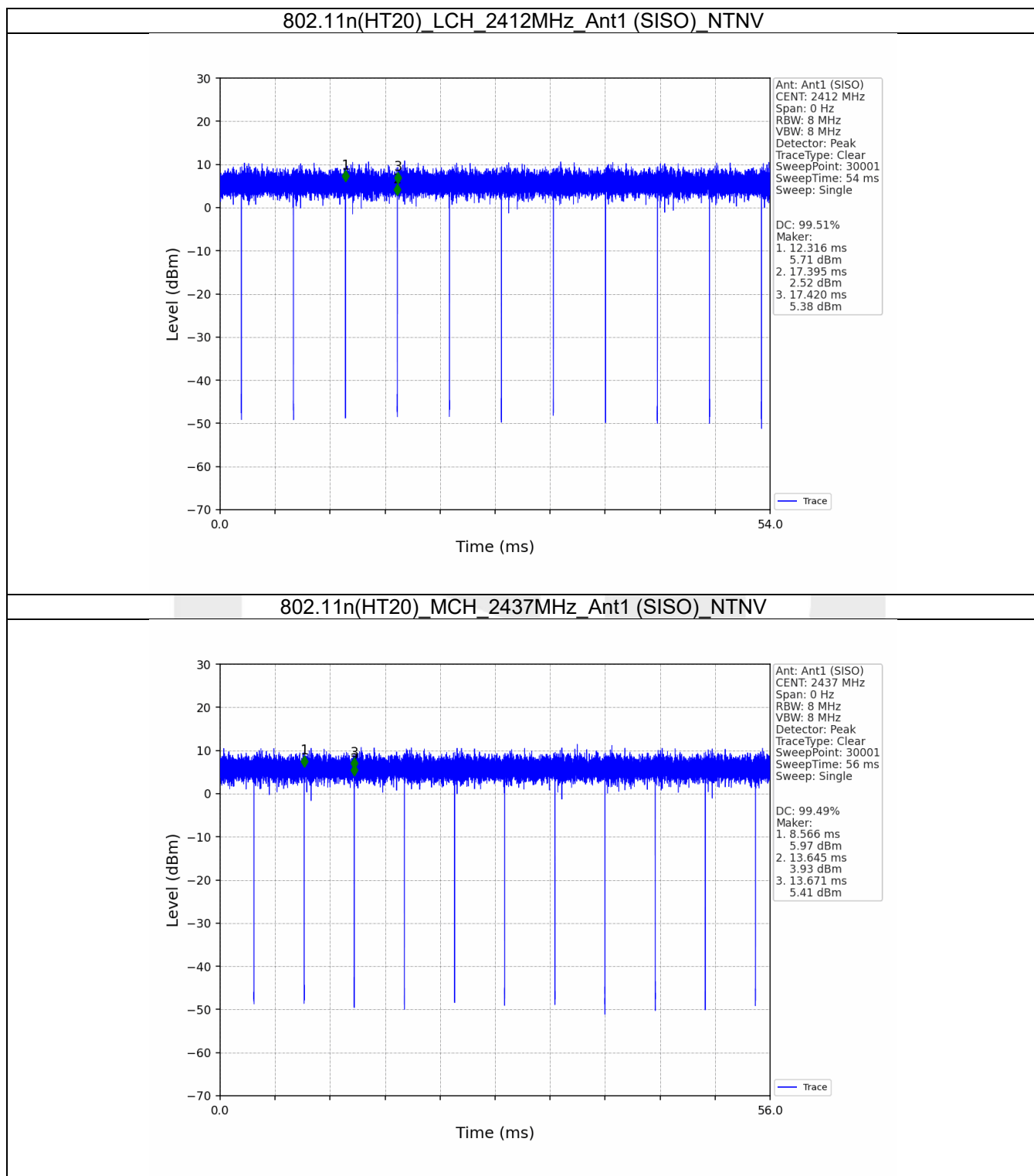
1.2 Test Graph

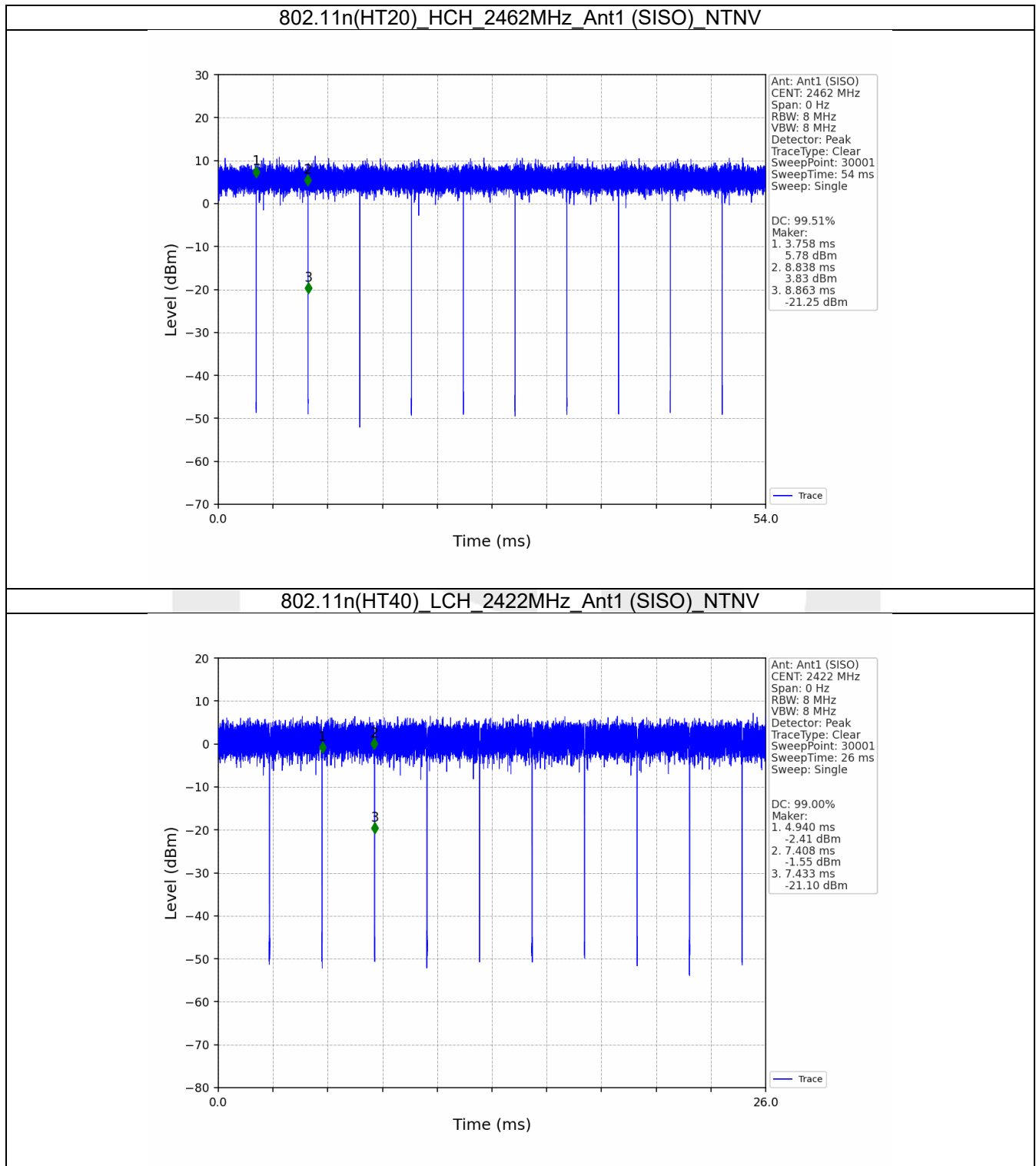
1.2.1 Ant1

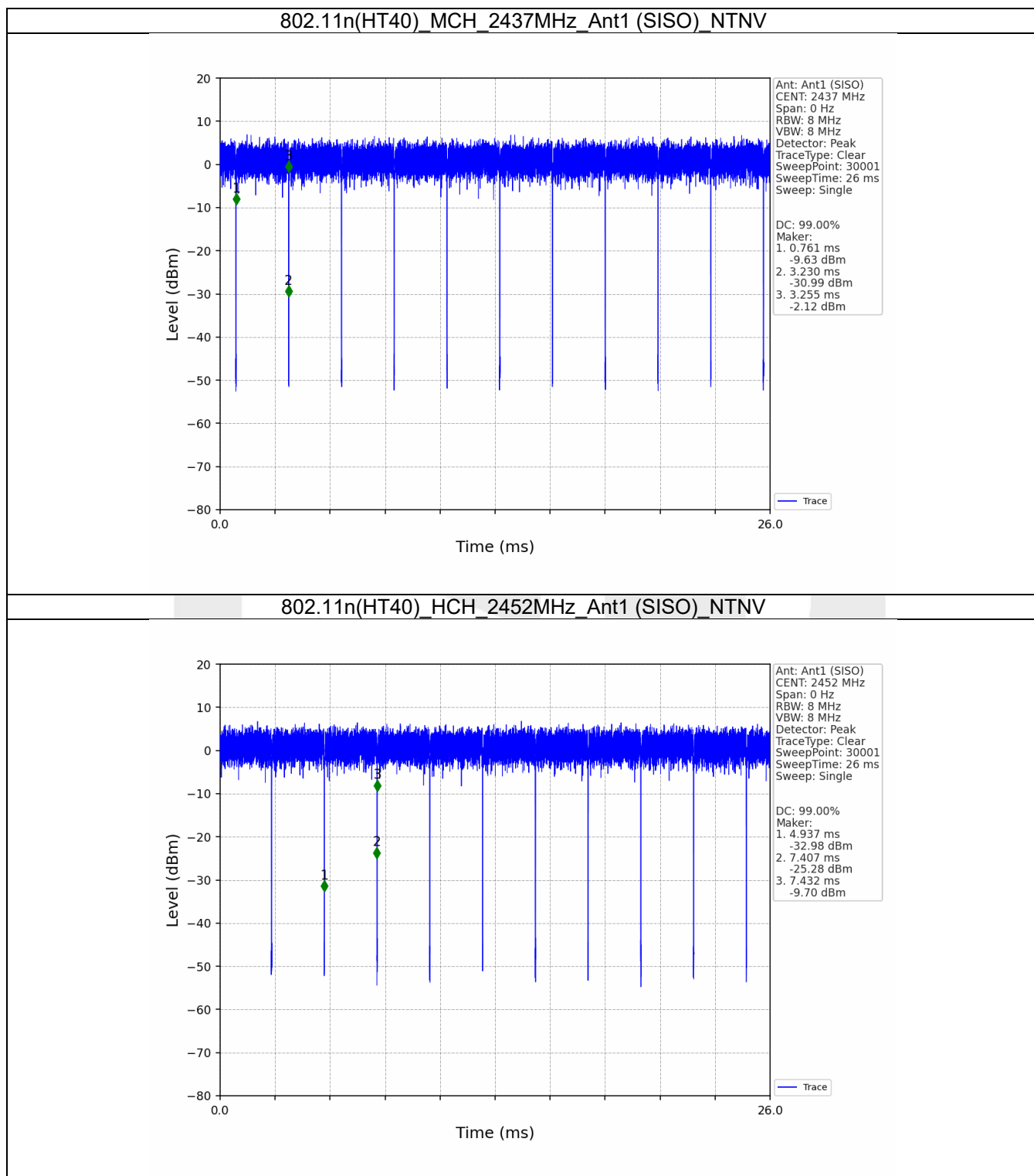












2. Bandwidth

2.1 Test Result

2.1.1 OBW

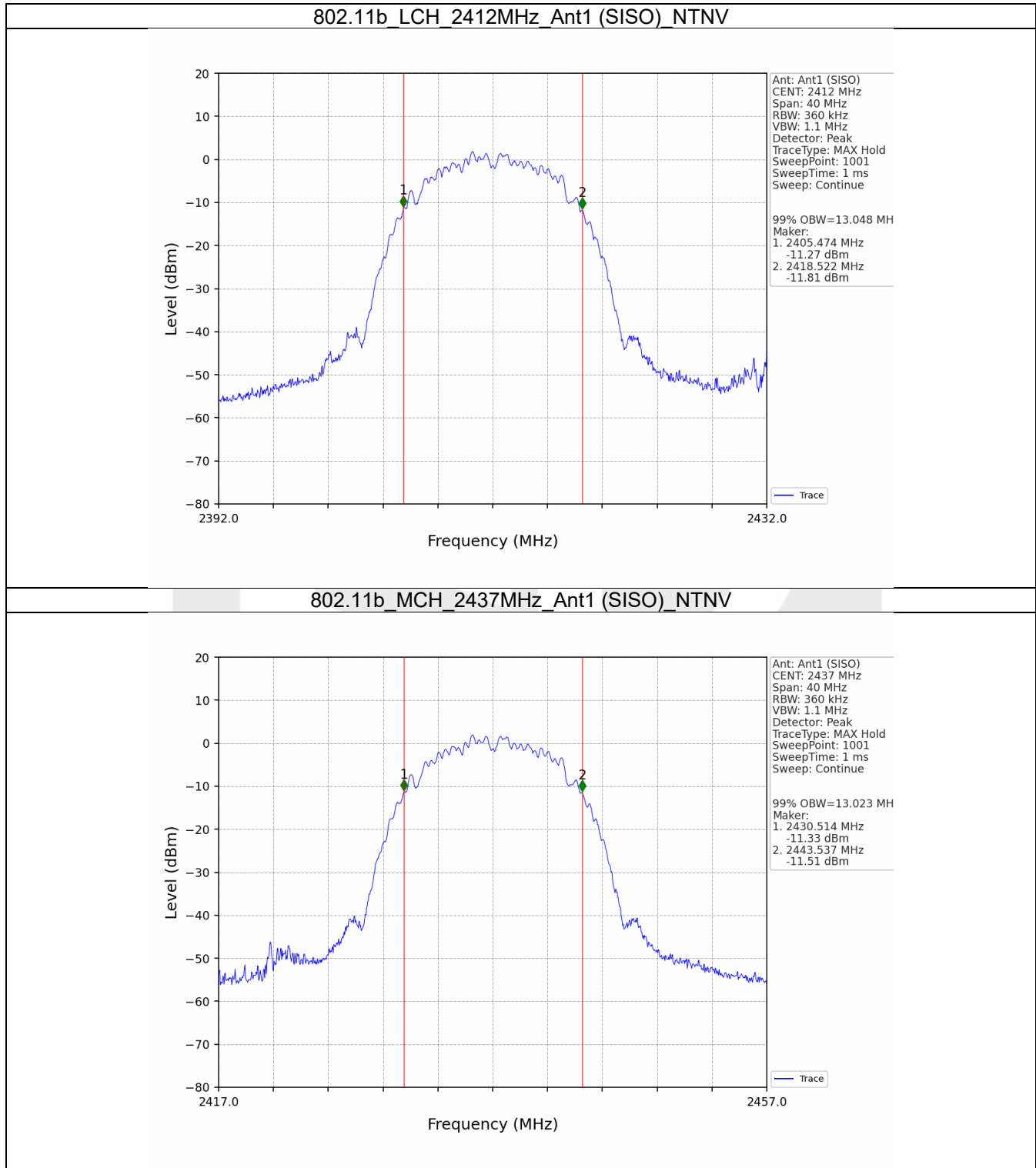
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	13.048	/	Pass
		2437	1	13.023	/	Pass
		2462	1	13.038	/	Pass
802.11g	SISO	2412	1	18.446	/	Pass
		2437	1	18.355	/	Pass
		2462	1	18.348	/	Pass
802.11n (HT20)	SISO	2412	1	19.094	/	Pass
		2437	1	19.036	/	Pass
		2462	1	19.004	/	Pass
802.11n (HT40)	SISO	2422	1	34.765	/	Pass
		2437	1	34.697	/	Pass
		2452	1	34.732	/	Pass

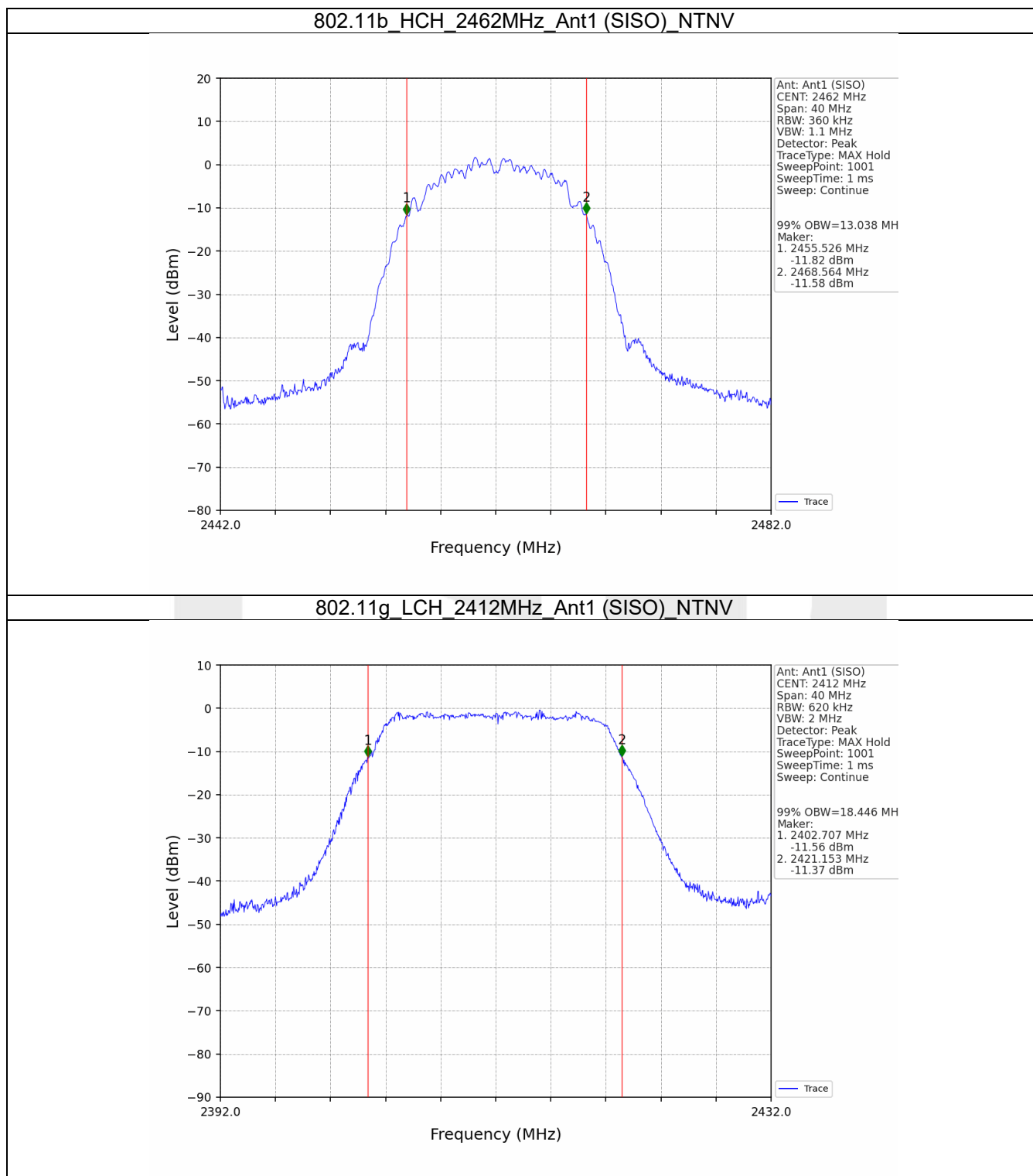
2.1.2 6dB BW

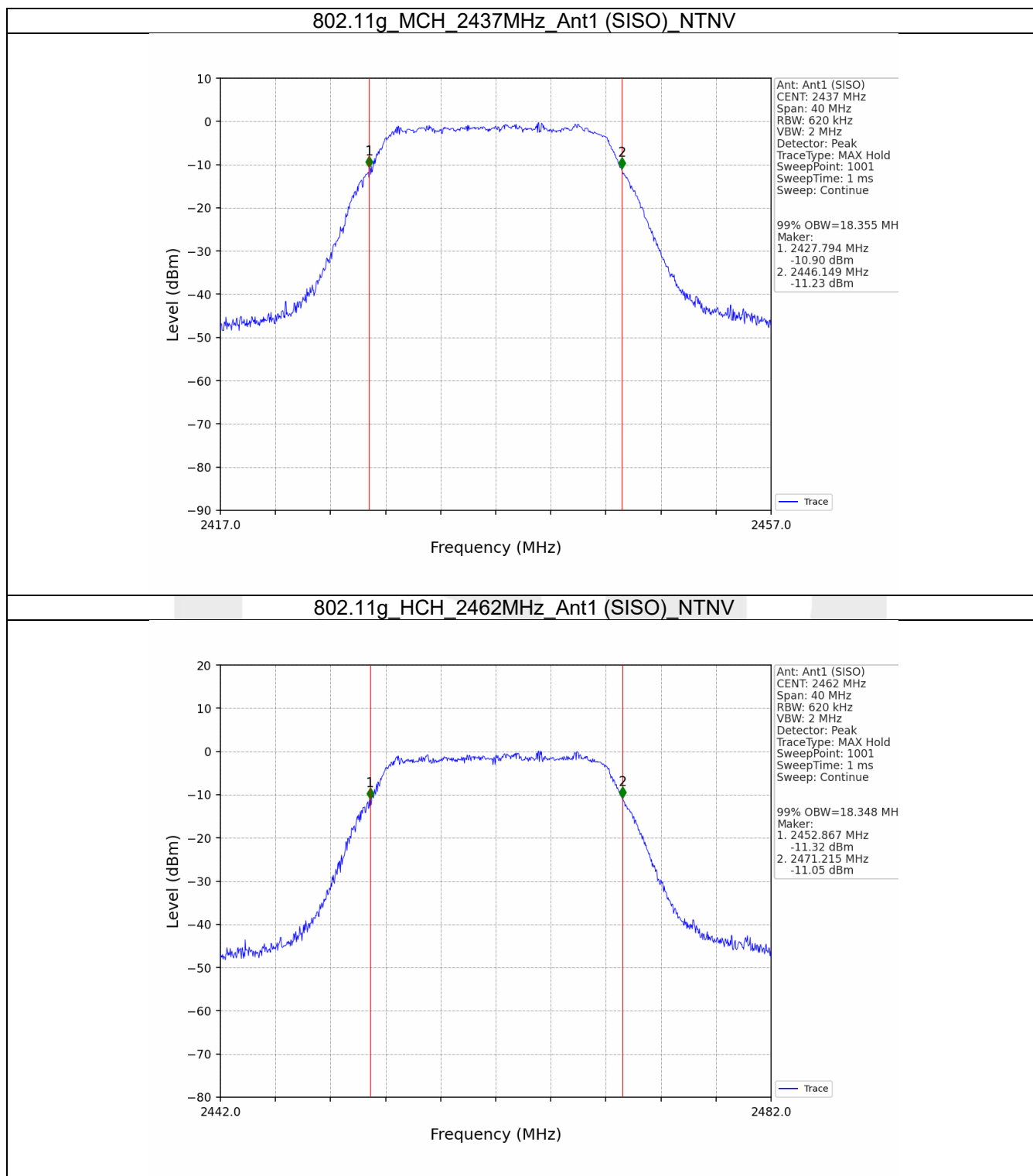
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
802.11b	SISO	2412	1	9.653	≥ 0.5	Pass
		2437	1	9.616	≥ 0.5	Pass
		2462	1	9.272	≥ 0.5	Pass
802.11g	SISO	2412	1	16.887	≥ 0.5	Pass
		2437	1	16.716	≥ 0.5	Pass
		2462	1	16.728	≥ 0.5	Pass
802.11n (HT20)	SISO	2412	1	17.989	≥ 0.5	Pass
		2437	1	18.024	≥ 0.5	Pass
		2462	1	17.963	≥ 0.5	Pass
802.11n (HT40)	SISO	2422	1	34.241	≥ 0.5	Pass
		2437	1	34.118	≥ 0.5	Pass
		2452	1	34.122	≥ 0.5	Pass

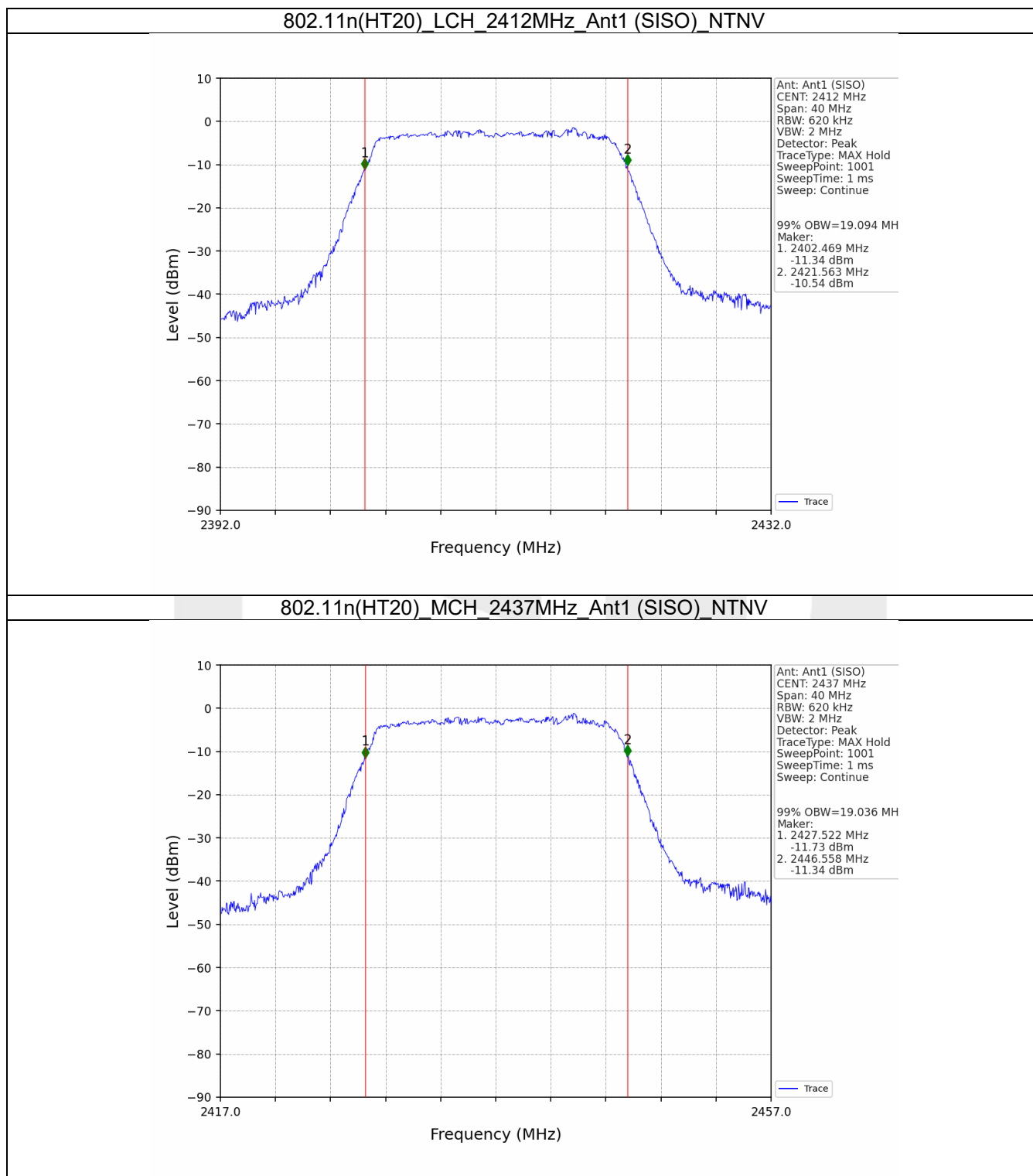
2.2 Test Graph

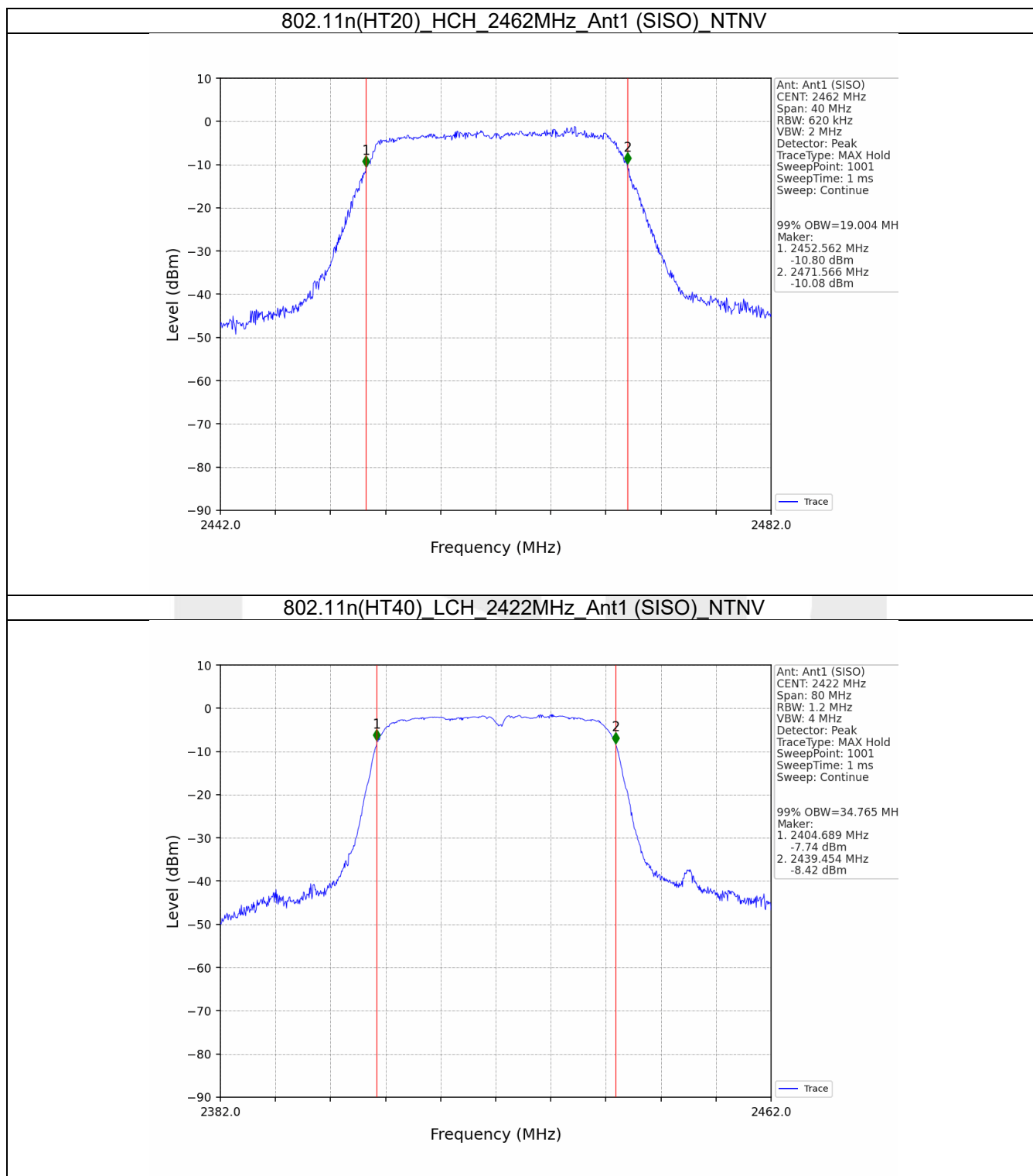
2.2.1 OBW

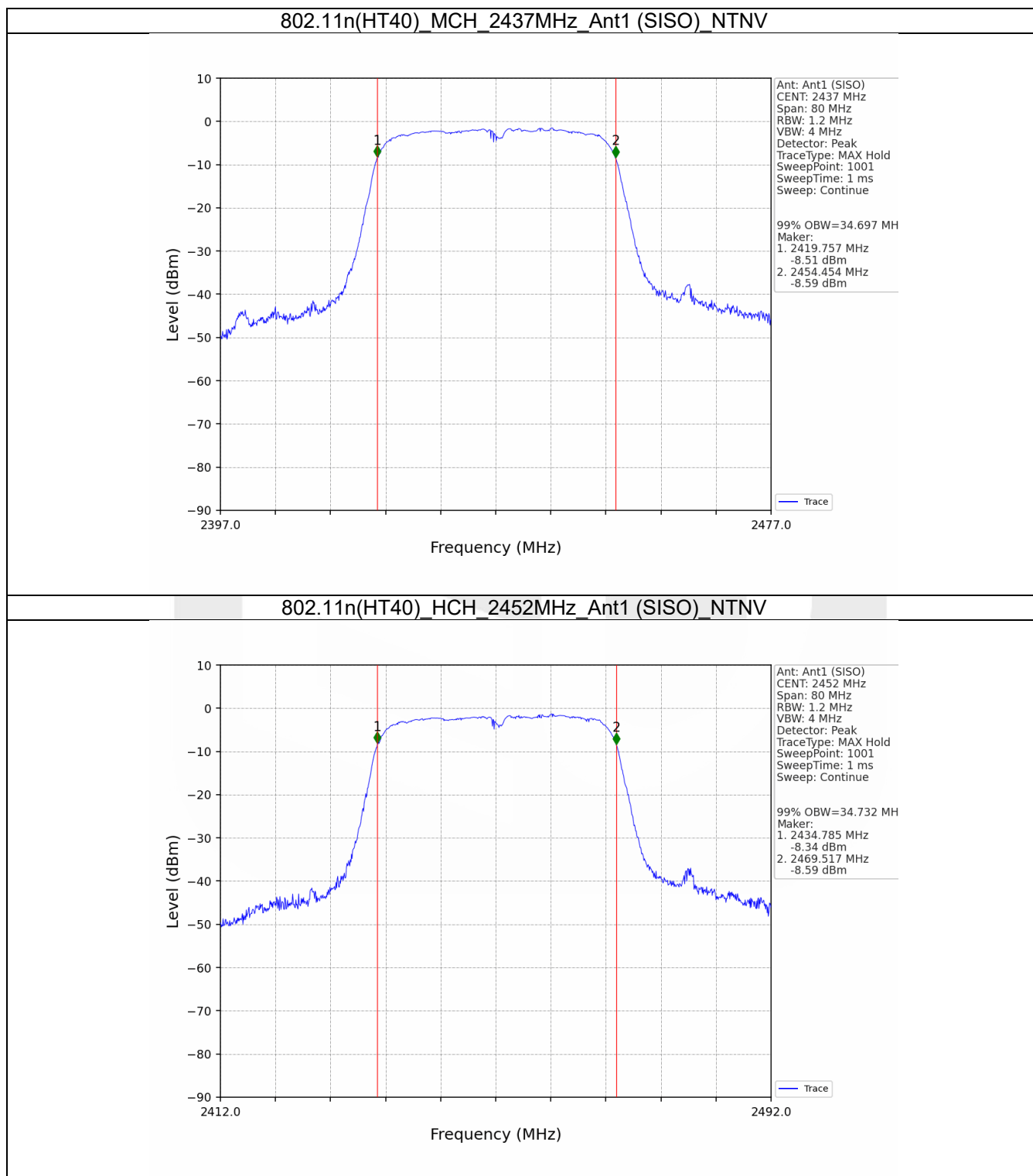




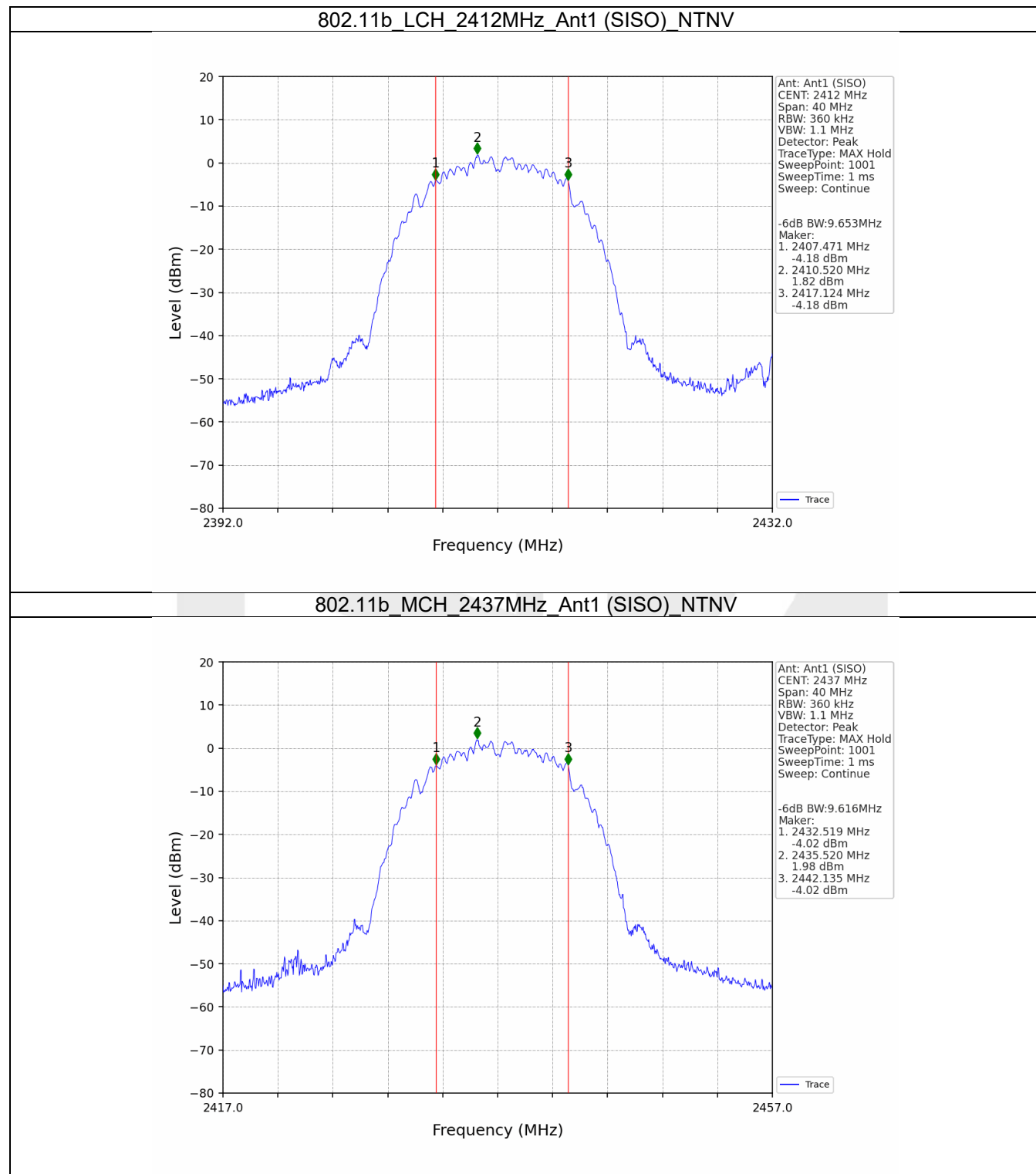


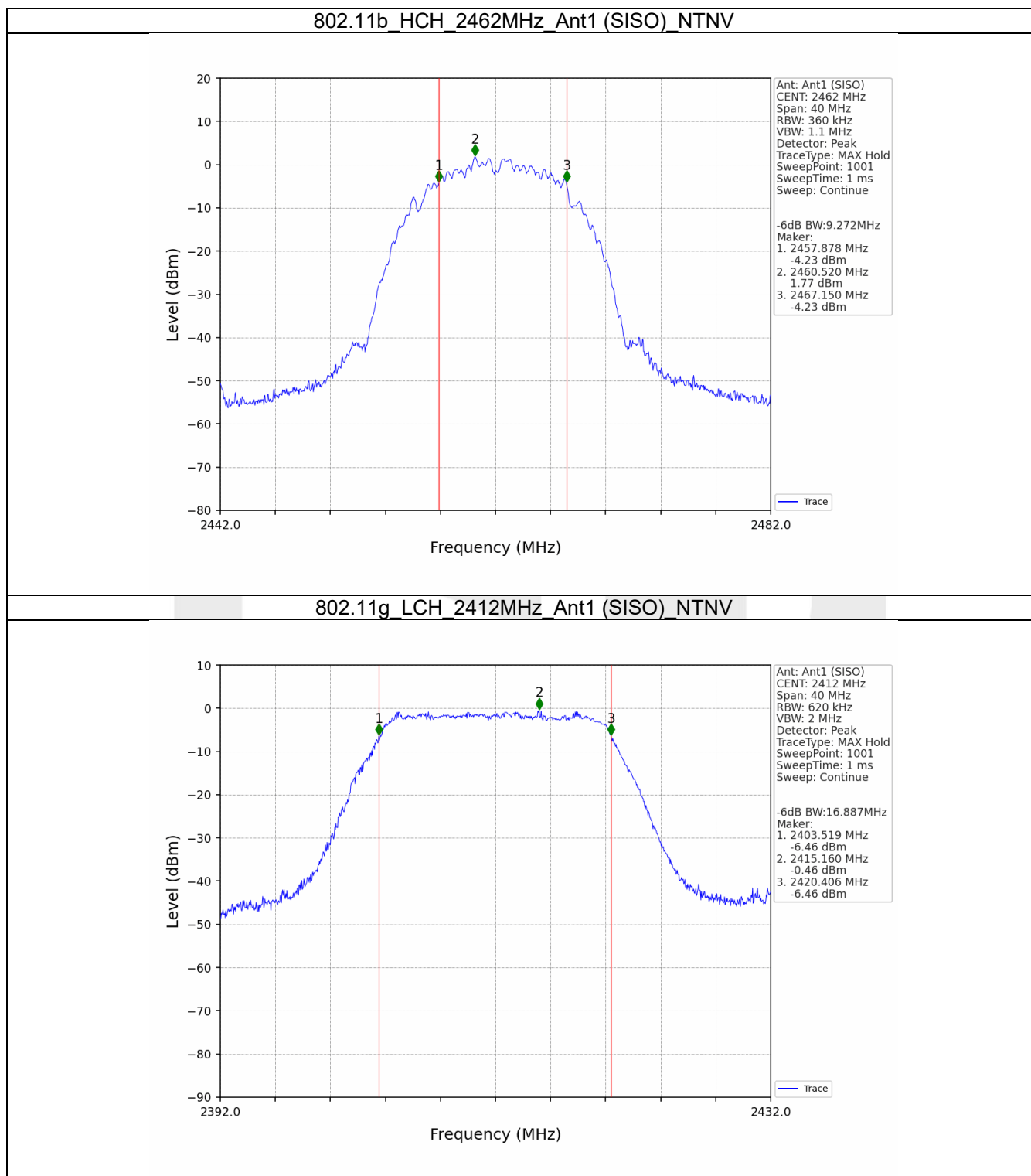


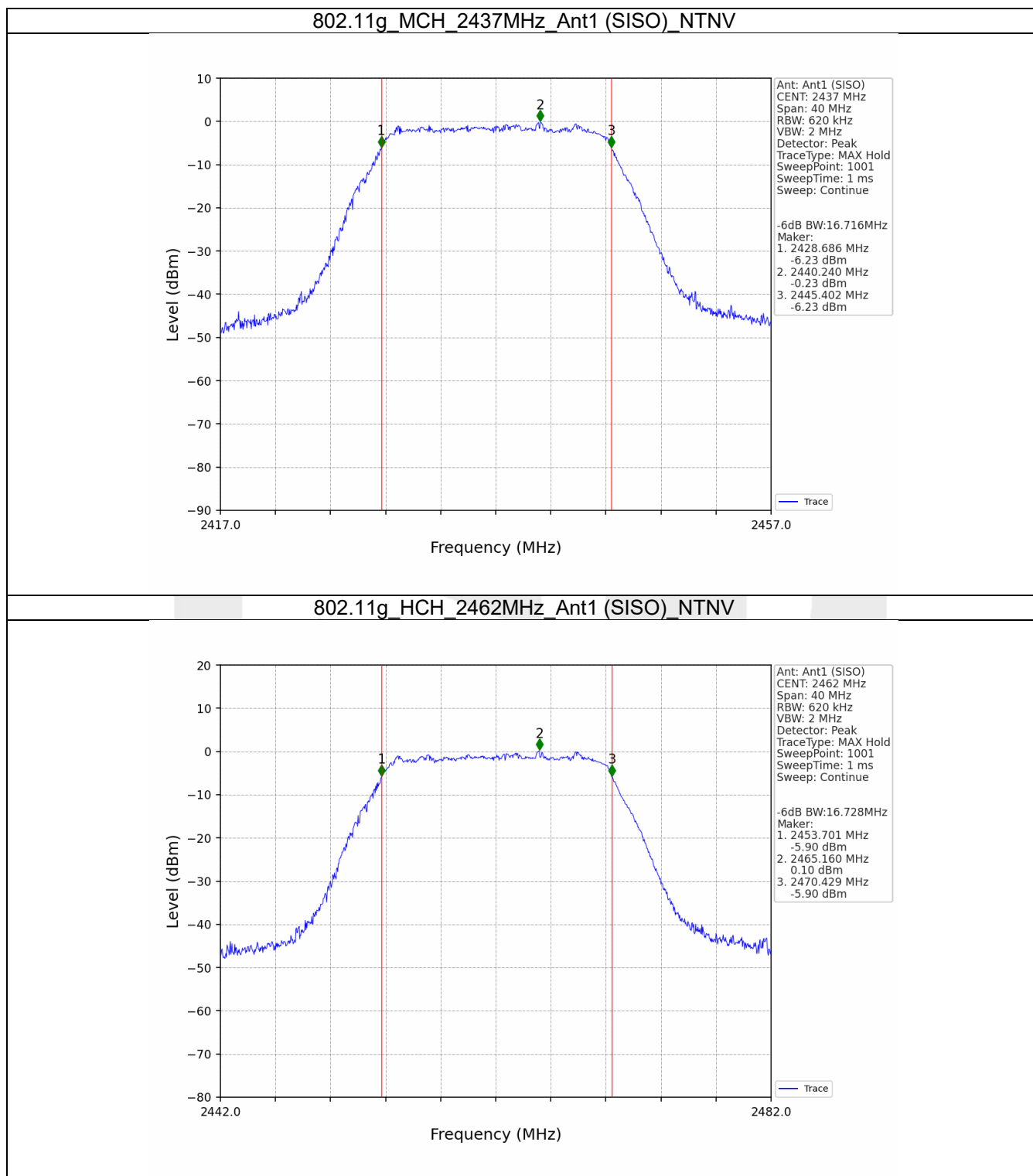


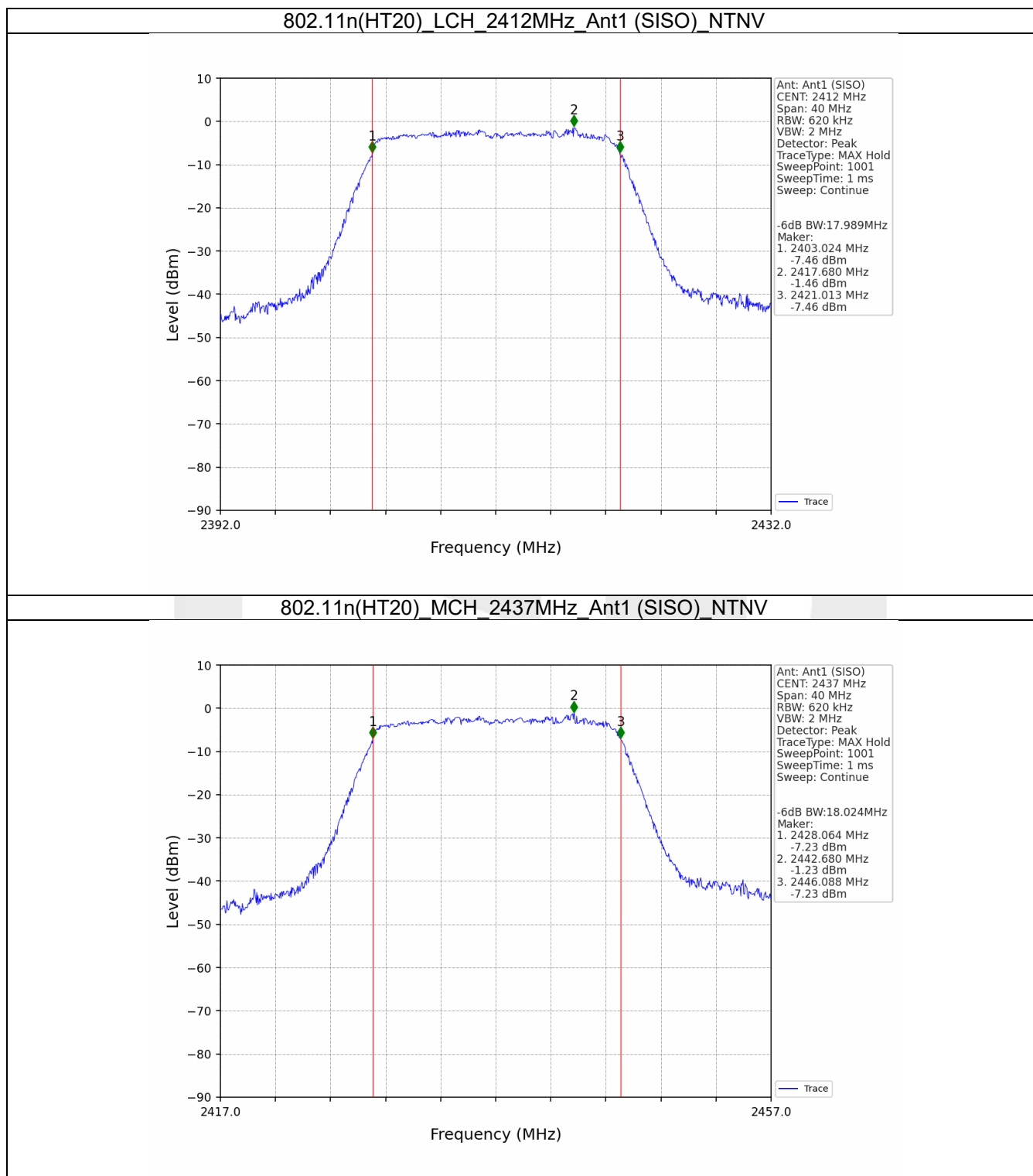


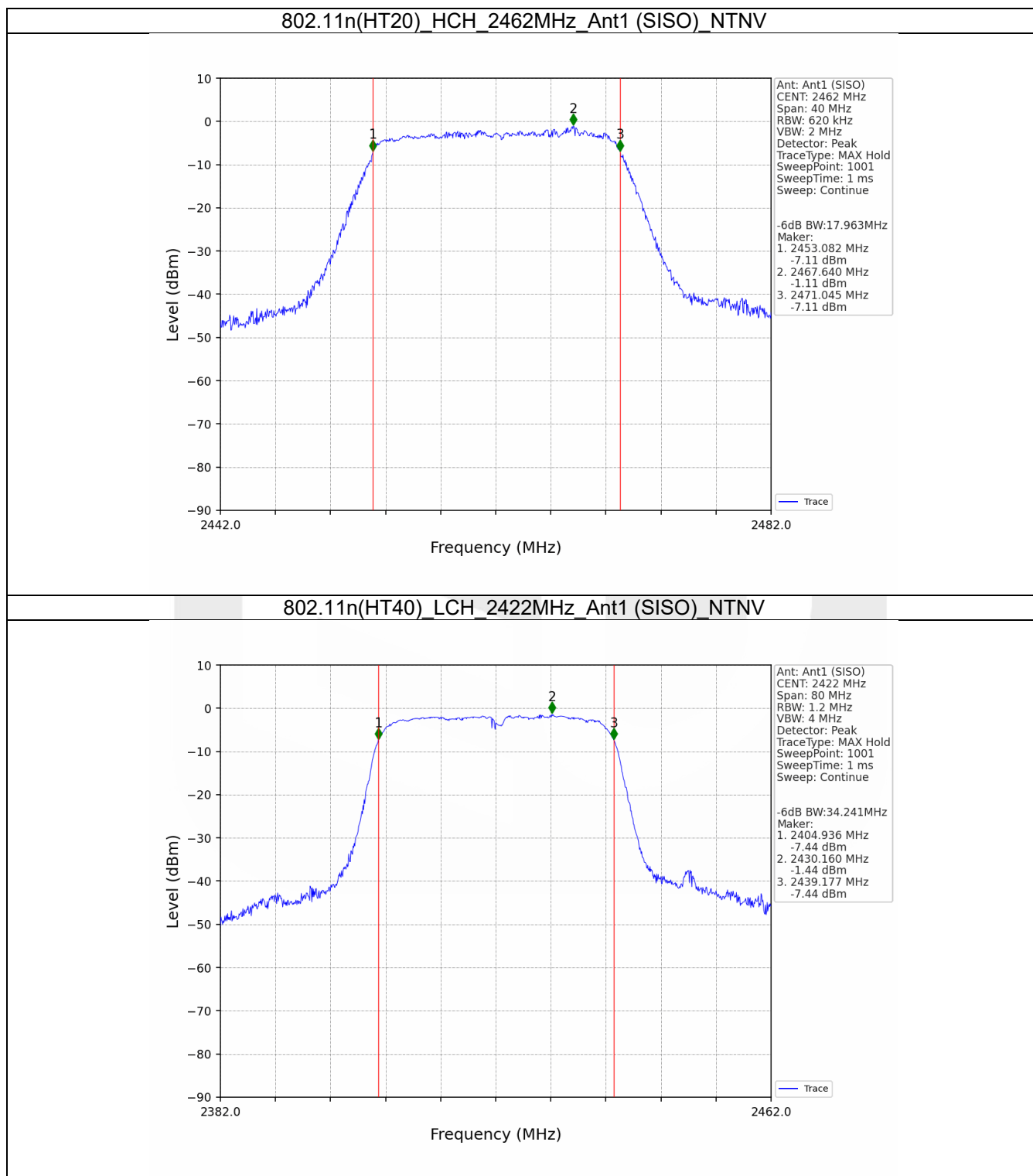
2.2.2 6dB BW

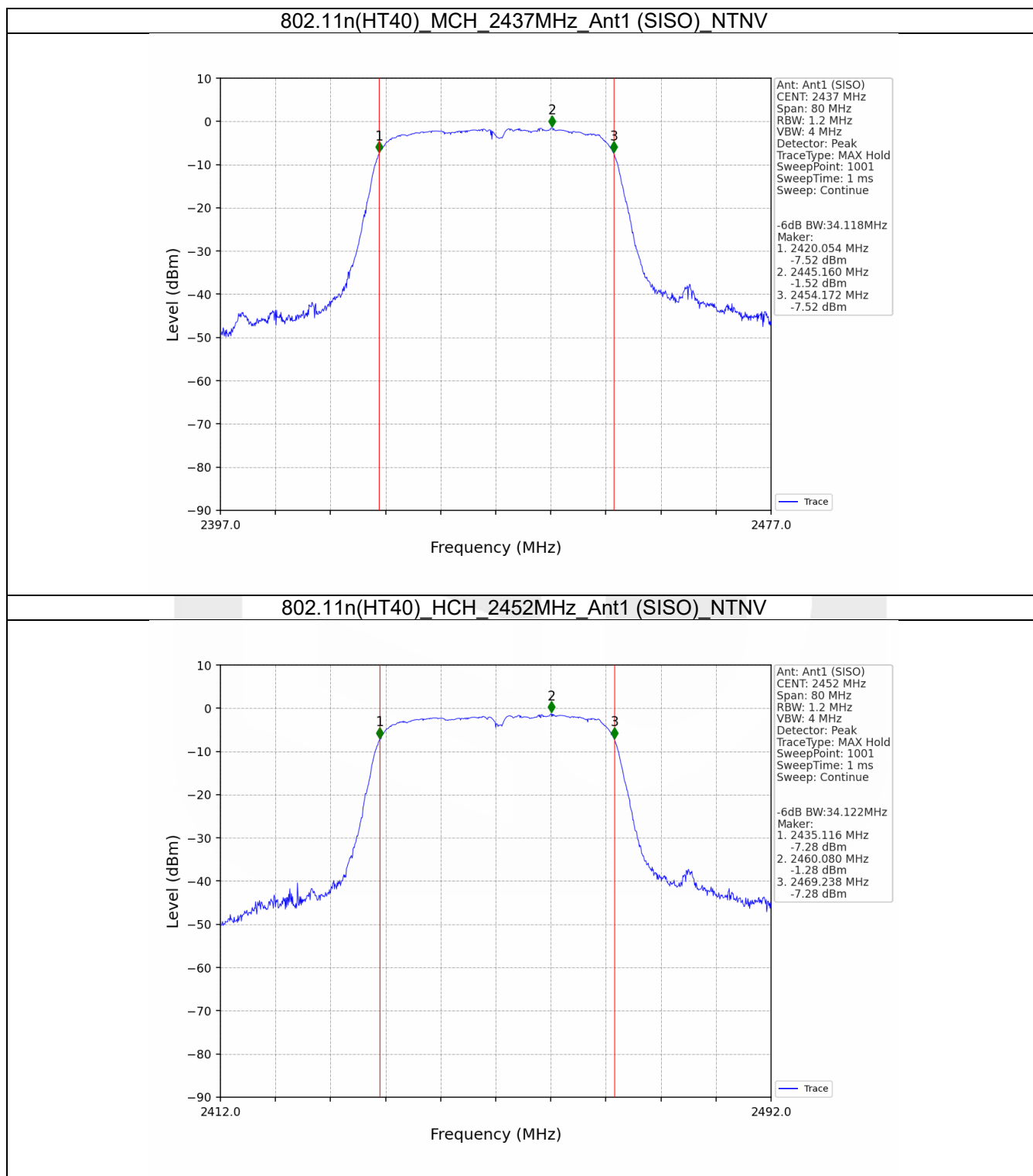












3. Maximum Conducted Output Power

3.1 Test Result

3.1.1 Power

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	11.95	<=30	Pass
		2437	12.14	<=30	Pass
		2462	11.91	<=30	Pass
802.11g	SISO	2412	12.49	<=30	Pass
		2437	12.55	<=30	Pass
		2462	12.82	<=30	Pass
802.11n (HT20)	SISO	2412	11.56	<=30	Pass
		2437	11.61	<=30	Pass
		2462	11.50	<=30	Pass
802.11n (HT40)	SISO	2422	10.93	<=30	Pass
		2437	10.81	<=30	Pass
		2452	10.92	<=30	Pass

4. Maximum Power Spectral Density

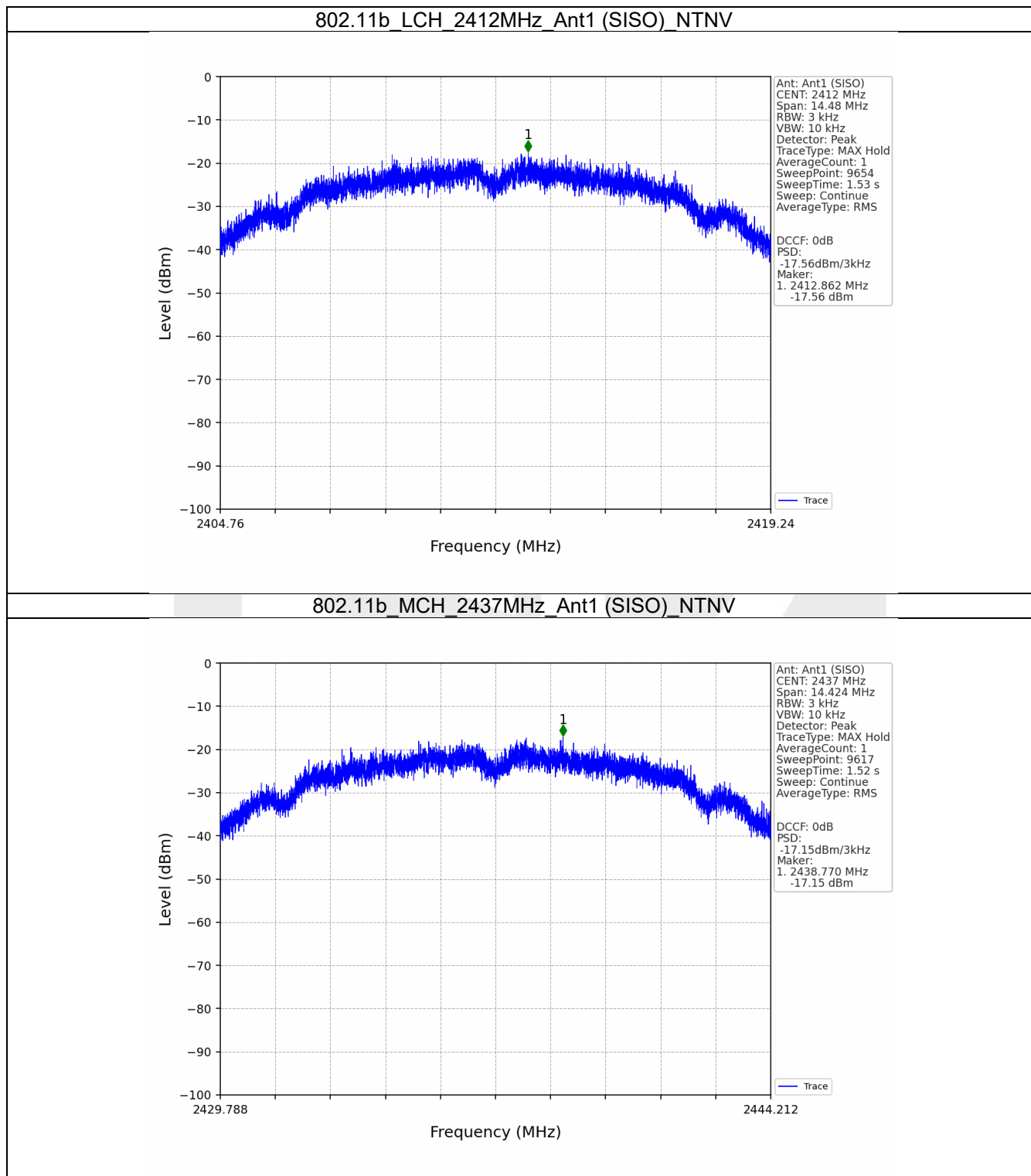
4.1 Test Result

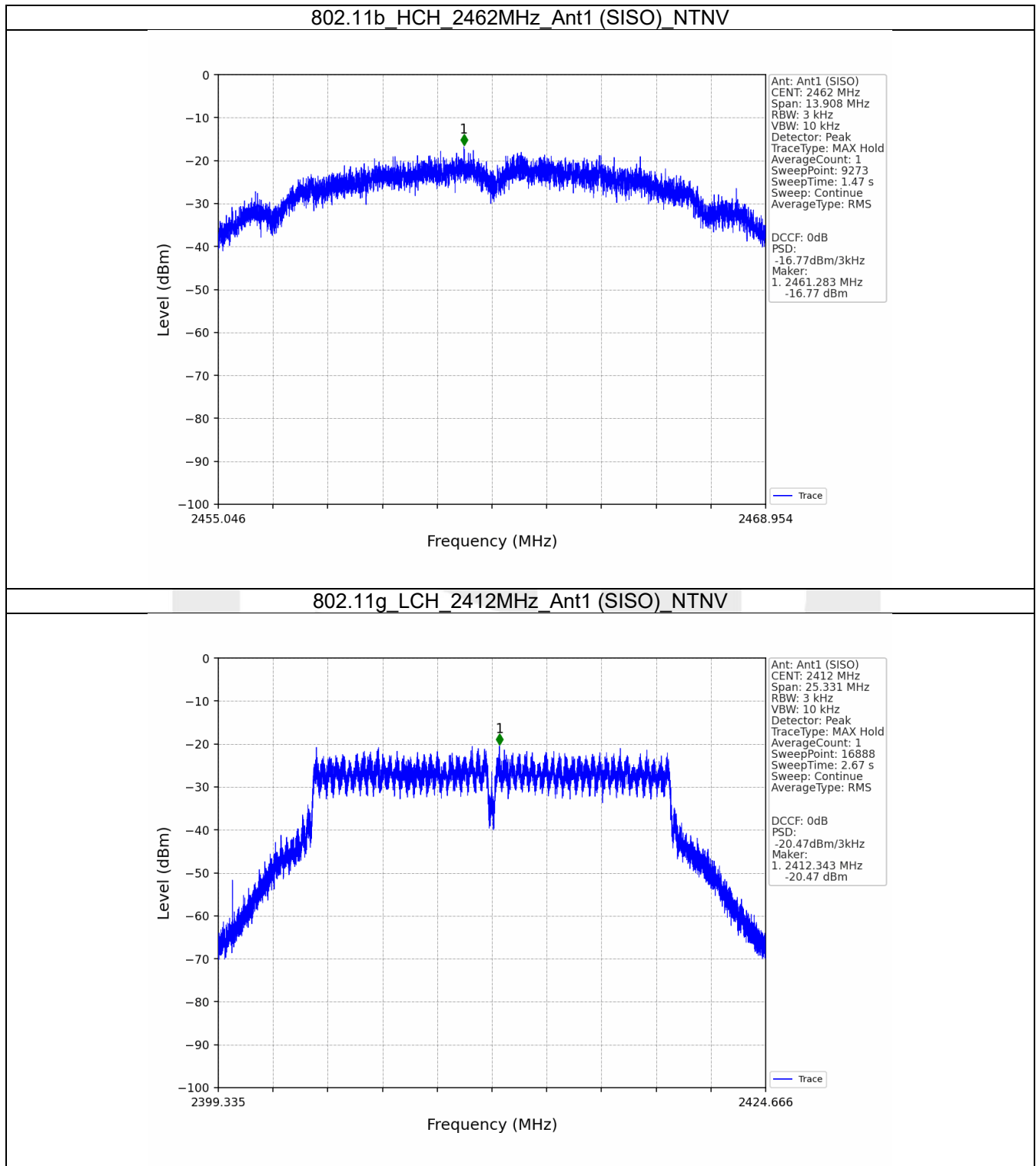
4.1.1 PSD

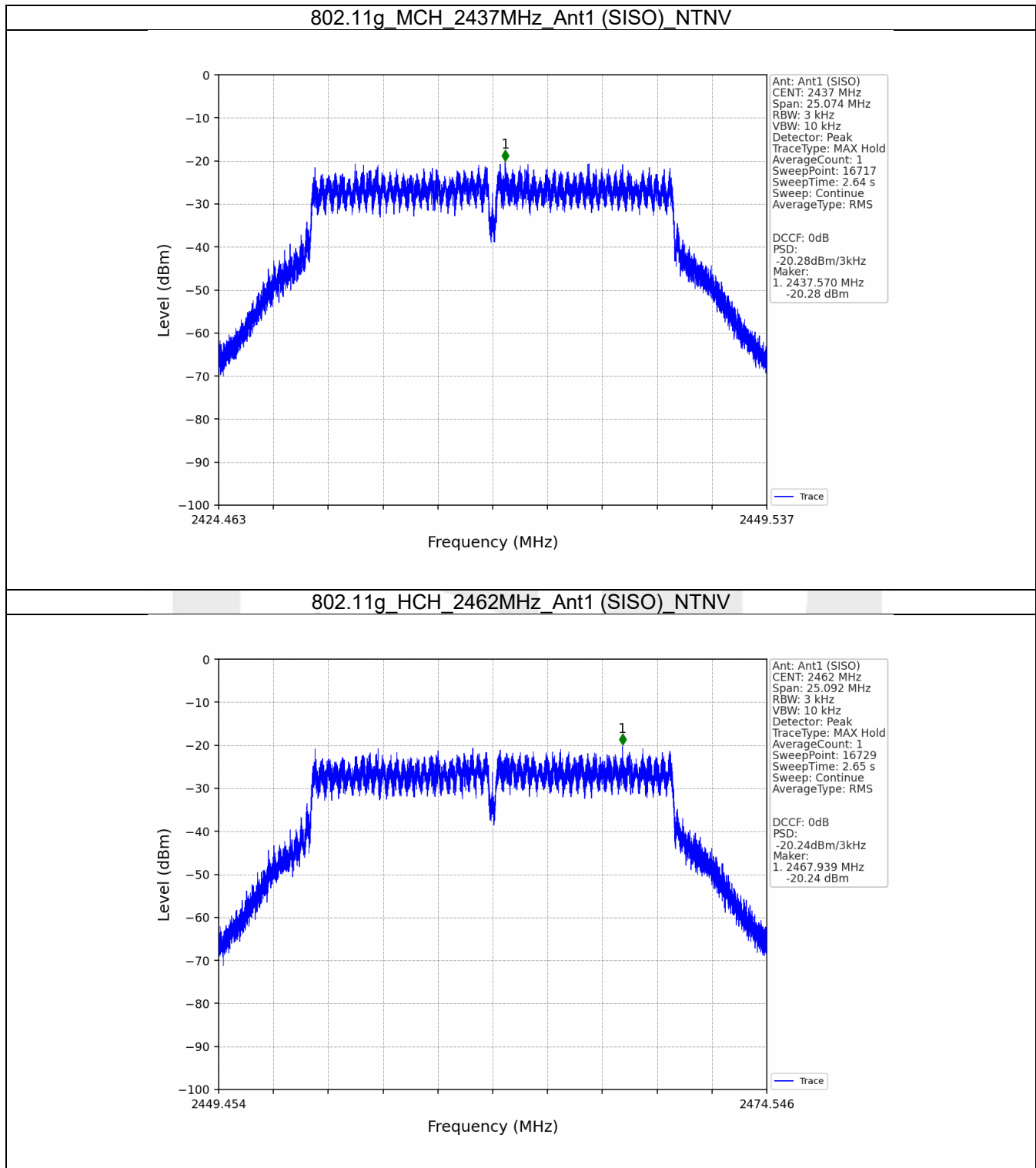
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
802.11b	SISO	2412	-17.56	<=8	Pass
		2437	-17.15	<=8	Pass
		2462	-16.77	<=8	Pass
802.11g	SISO	2412	-20.47	<=8	Pass
		2437	-20.28	<=8	Pass
		2462	-20.24	<=8	Pass
802.11n (HT20)	SISO	2412	-21.26	<=8	Pass
		2437	-21.13	<=8	Pass
		2462	-20.95	<=8	Pass
802.11n (HT40)	SISO	2422	-23.48	<=8	Pass
		2437	-23.55	<=8	Pass
		2452	-23.48	<=8	Pass

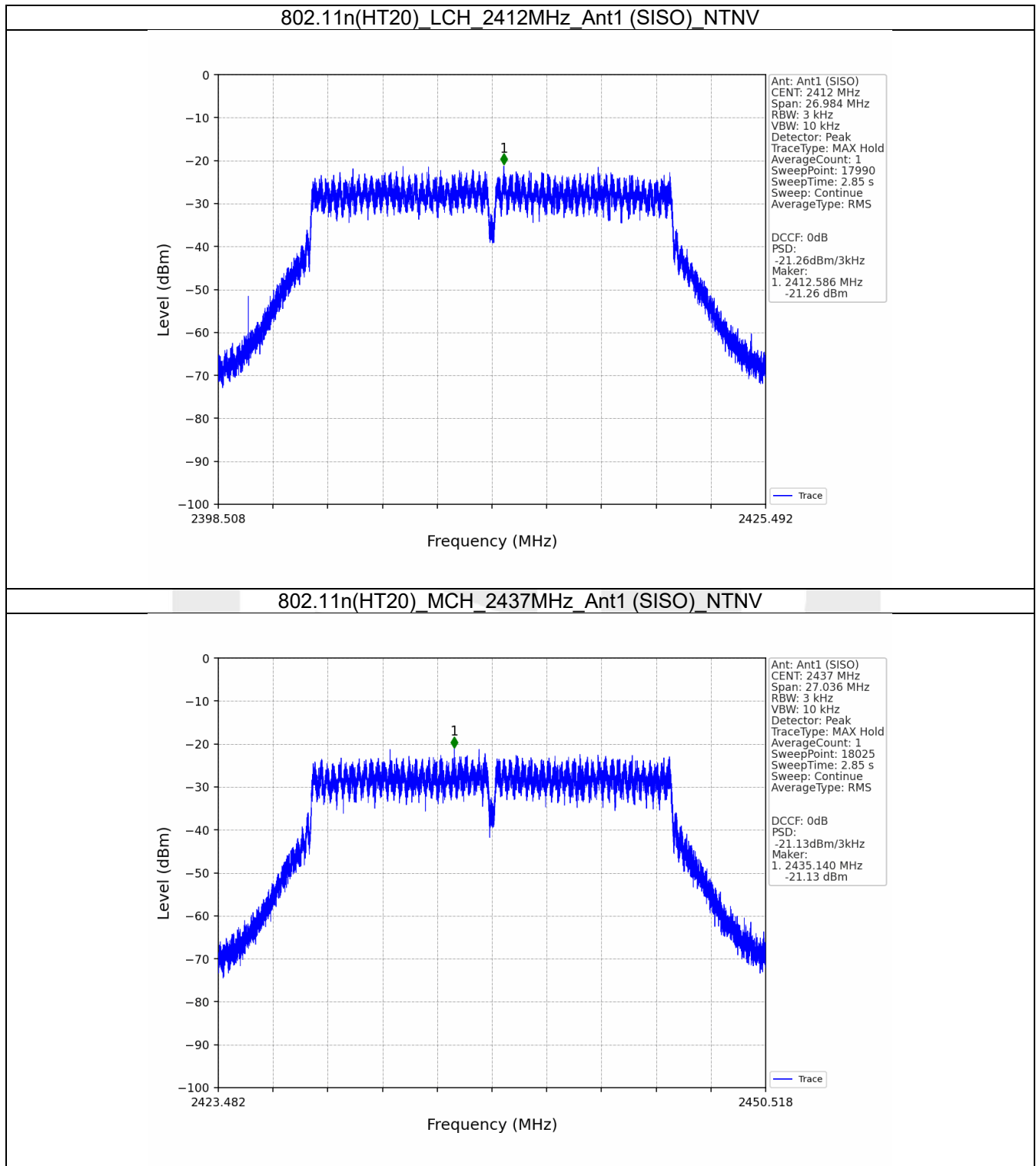
4.2 Test Graph

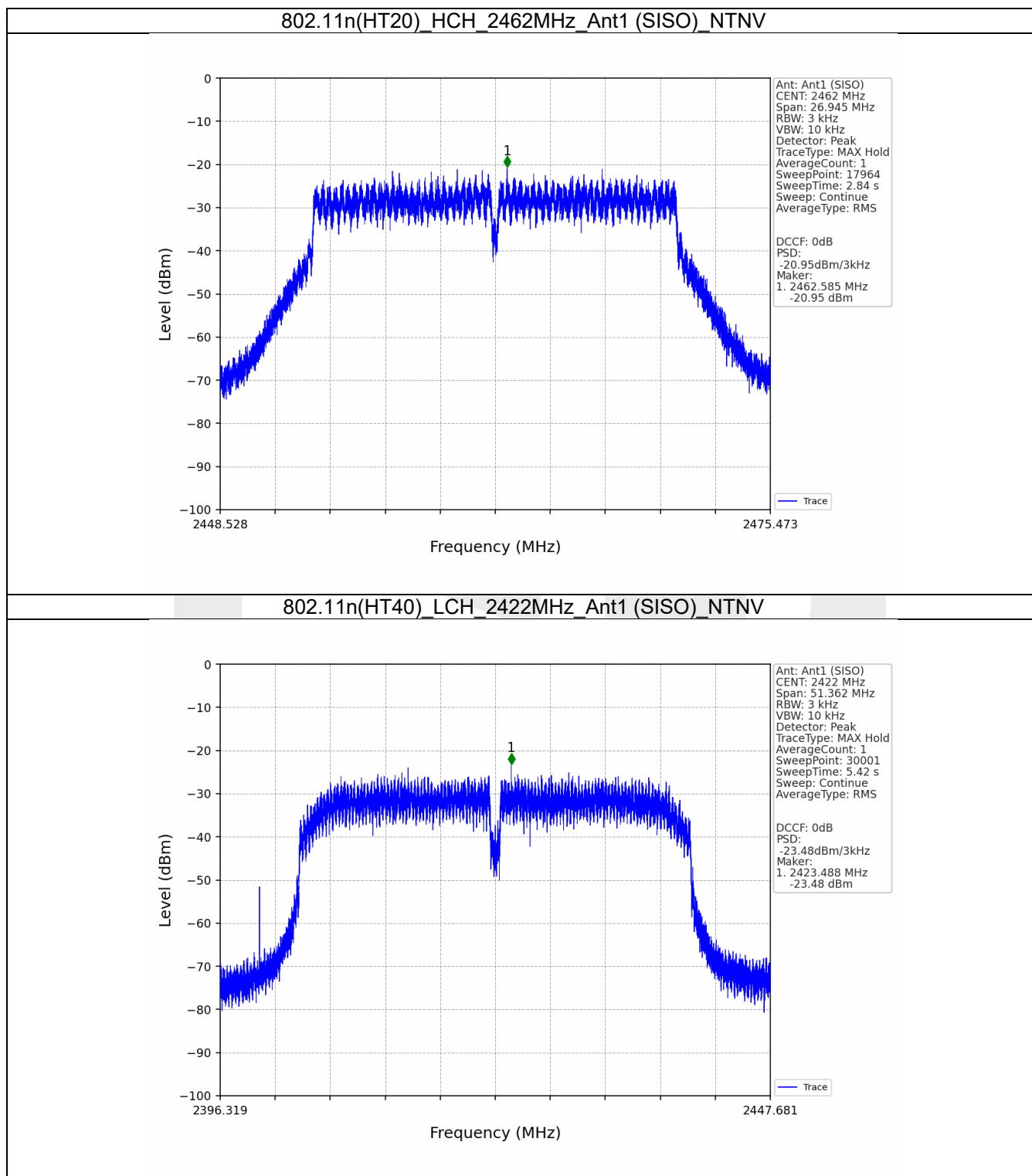
4.2.1 PSD

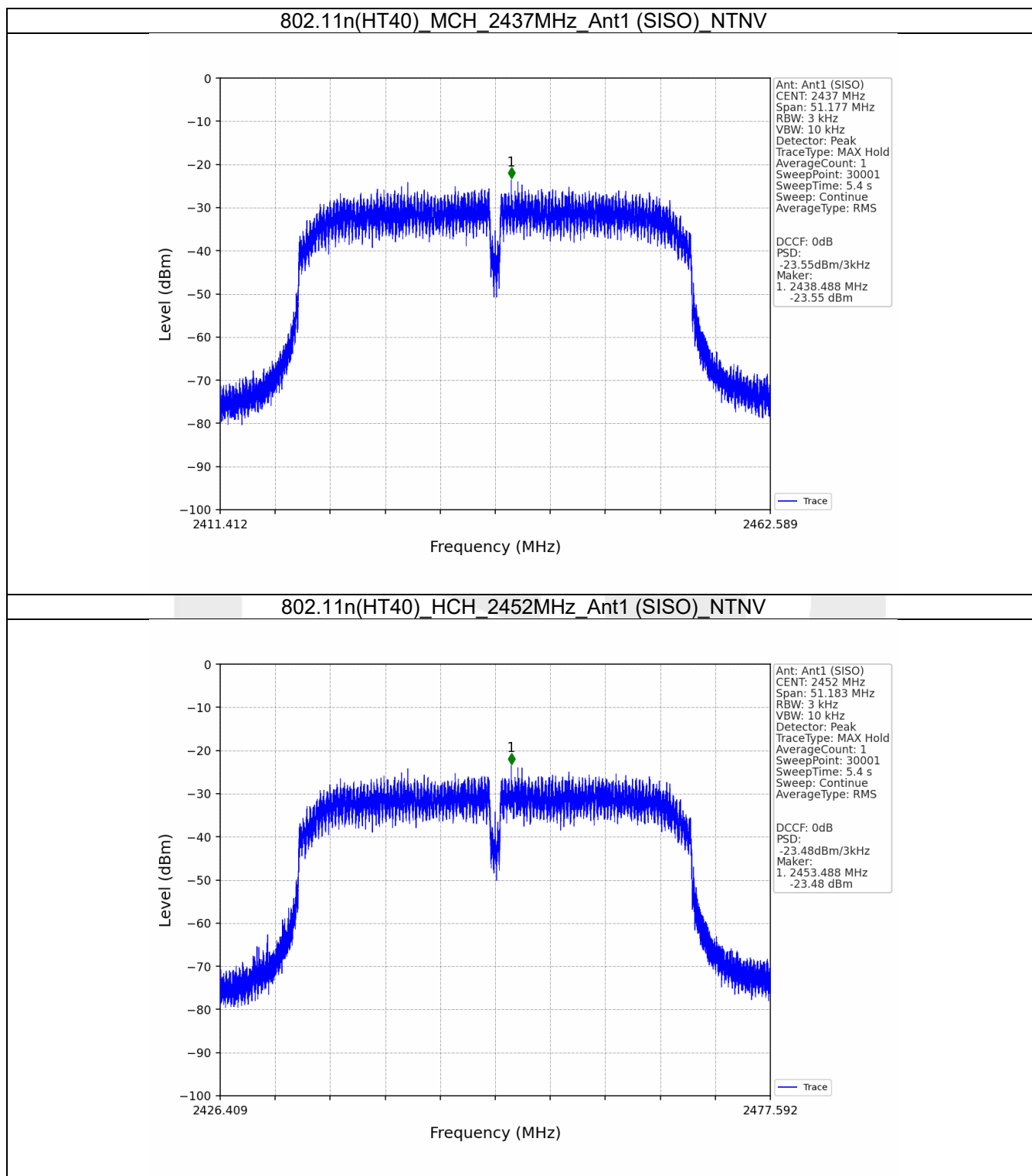












5. Unwanted Emissions In Non-restricted Frequency Bands

5.1 Test Result

5.1.1 Ref

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
802.11b	SISO	2412	1	-2.27
		2437	1	-2.15
		2462	1	-2.22
802.11g	SISO	2412	1	-7.07
		2437	1	-6.86
		2462	1	-5.73
802.11n (HT20)	SISO	2412	1	-7.23
		2437	1	-7.64
		2462	1	-6.96
802.11n (HT40)	SISO	2422	1	-11.17
		2437	1	-10.85
		2452	1	-11.20

Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

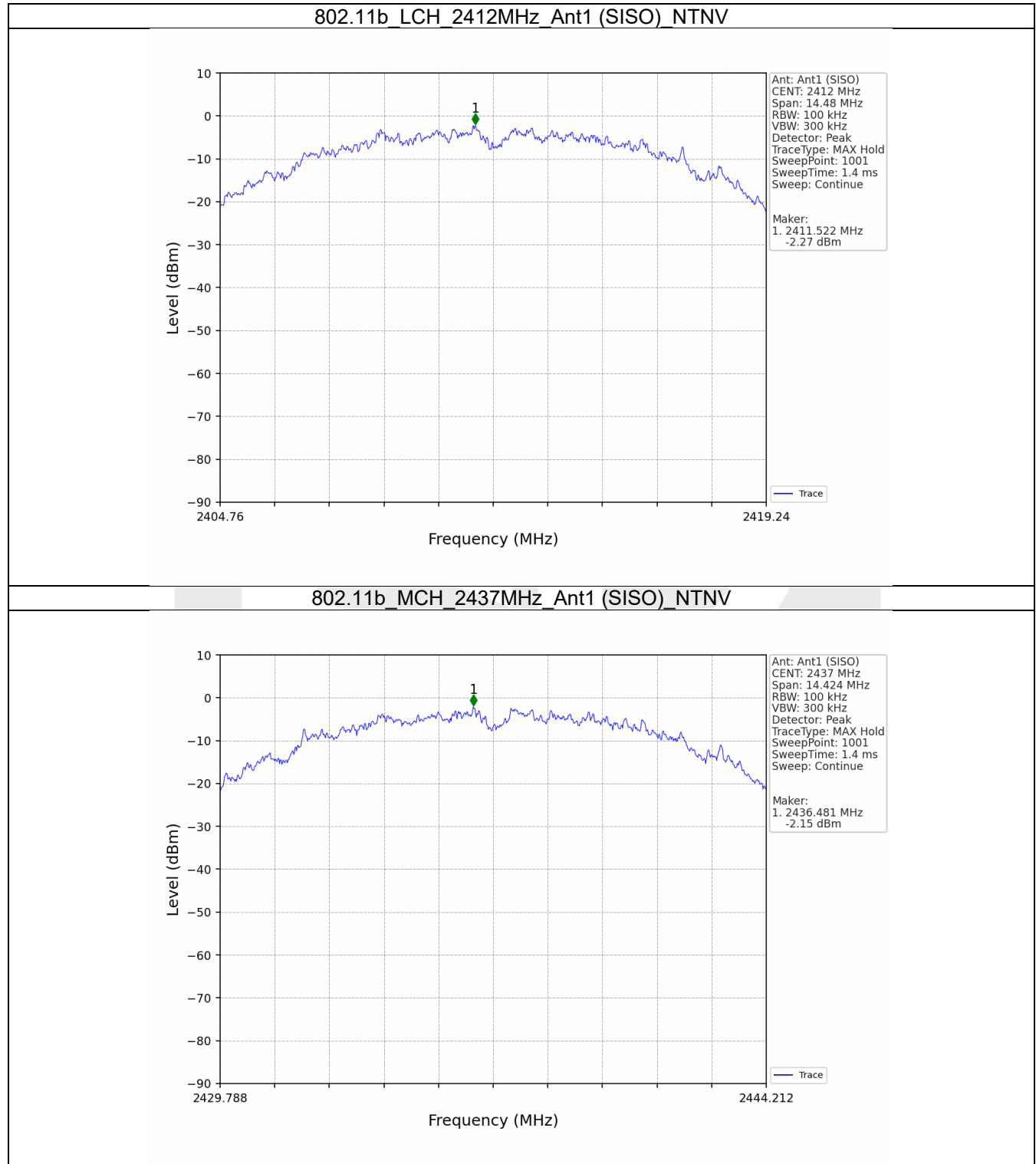
5.1.2 CSE

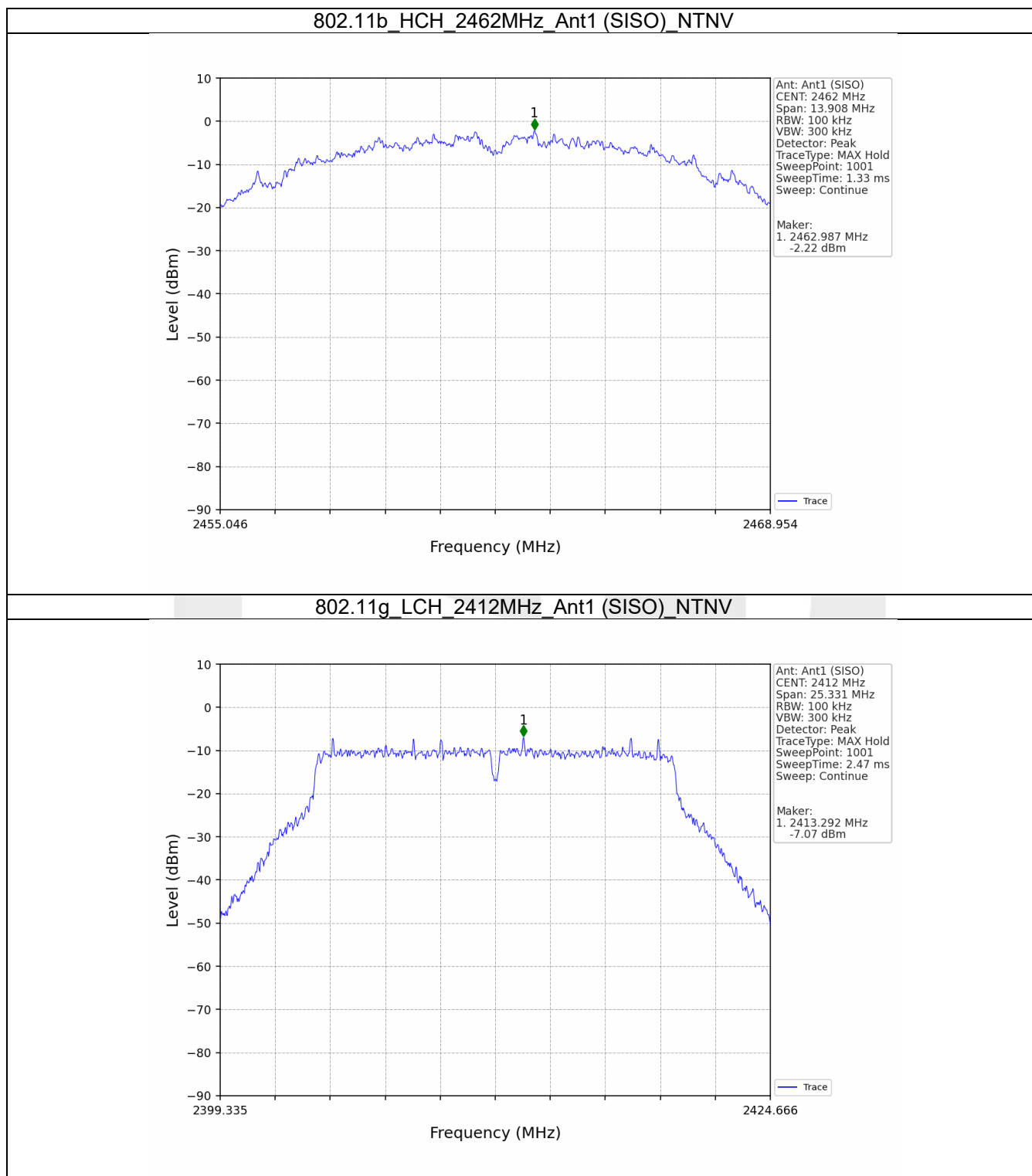
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
802.11b	SISO	2412	1	-2.27	-22.27	Pass
		2437	1	-2.15	-22.15	Pass
		2462	1	-2.22	-22.22	Pass
802.11g	SISO	2412	1	-7.07	-27.07	Pass
		2437	1	-6.86	-26.86	Pass
		2462	1	-5.73	-25.73	Pass
802.11n (HT20)	SISO	2412	1	-7.23	-27.23	Pass
		2437	1	-7.64	-27.64	Pass
		2462	1	-6.96	-26.96	Pass
802.11n (HT40)	SISO	2422	1	-11.17	-31.17	Pass
		2437	1	-10.85	-30.85	Pass
		2452	1	-11.20	-31.20	Pass

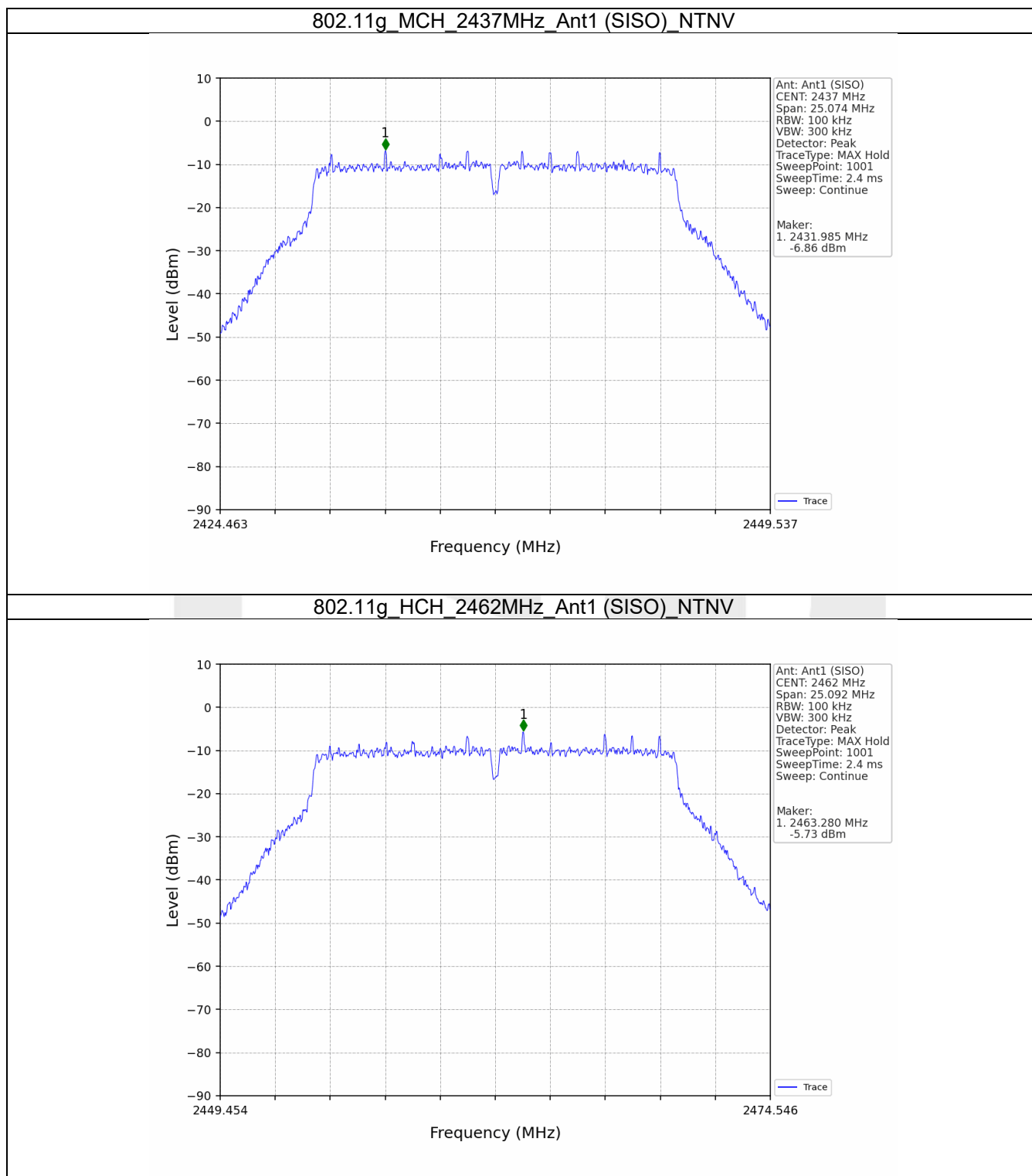
Note1: Refer to FCC Part 15.247 (d) and ANSI C63.10-2020, the channel contains the maximum PSD level was used to establish the reference level.

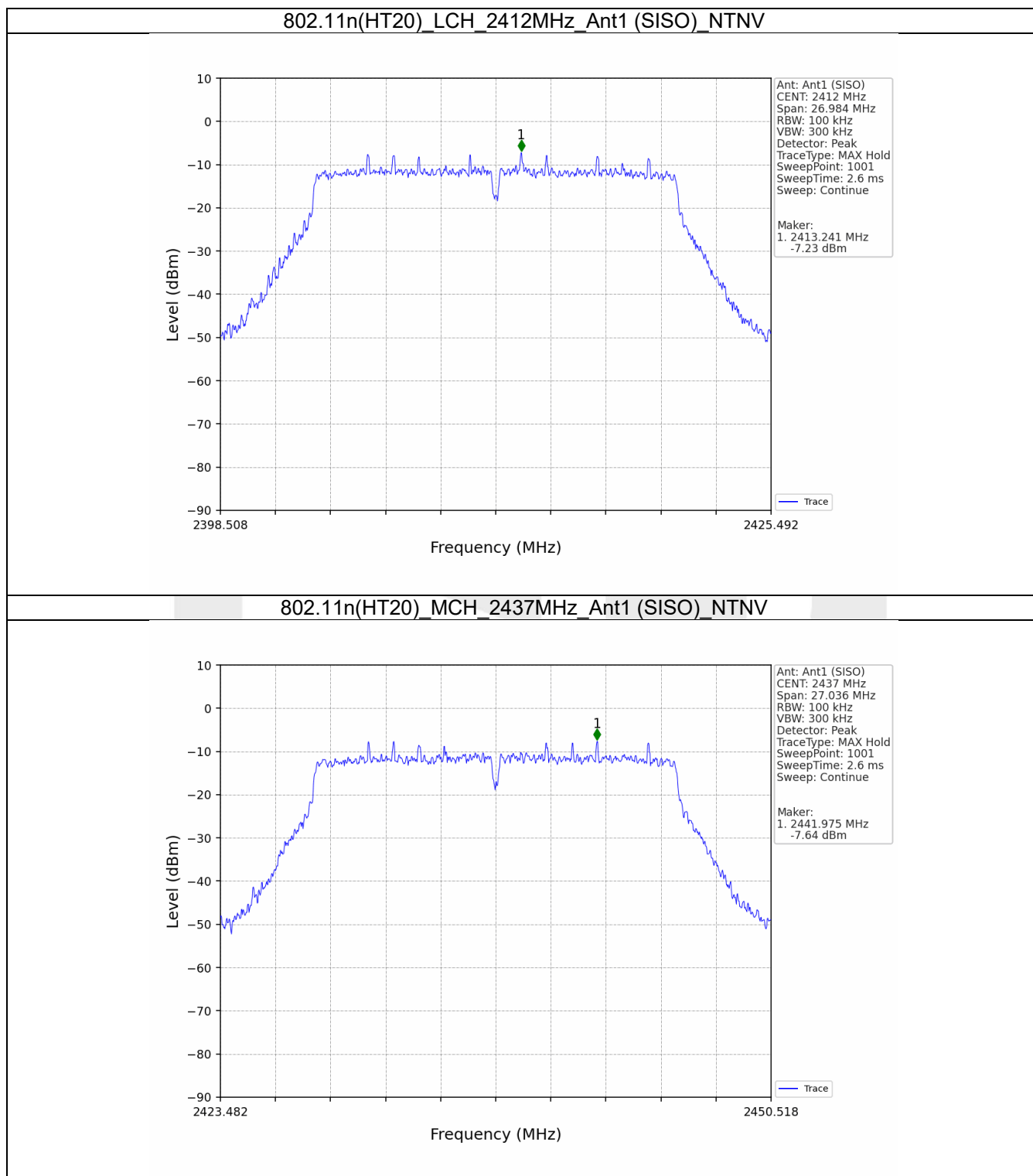
5.2 Test Graph

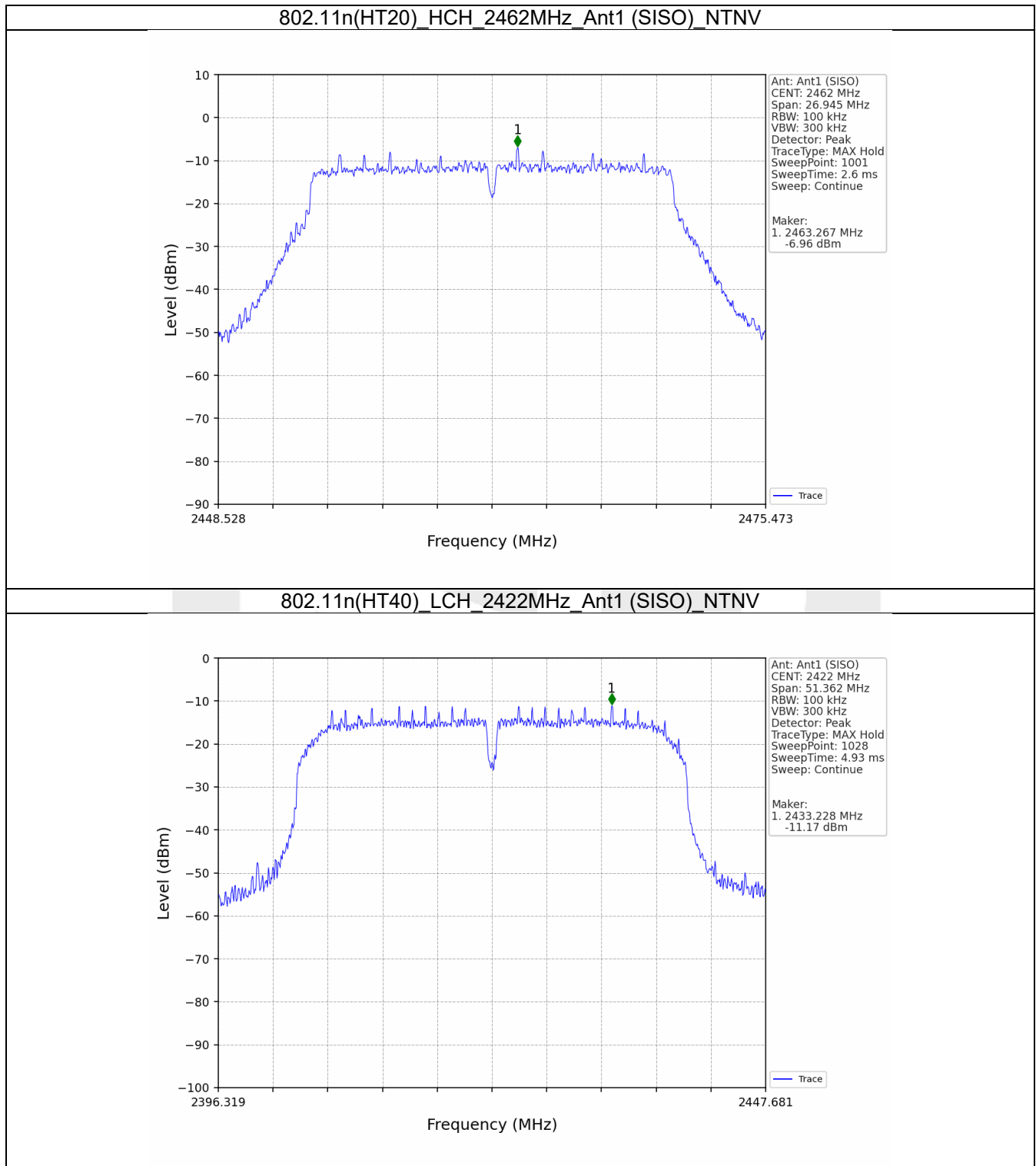
5.2.1 Ref

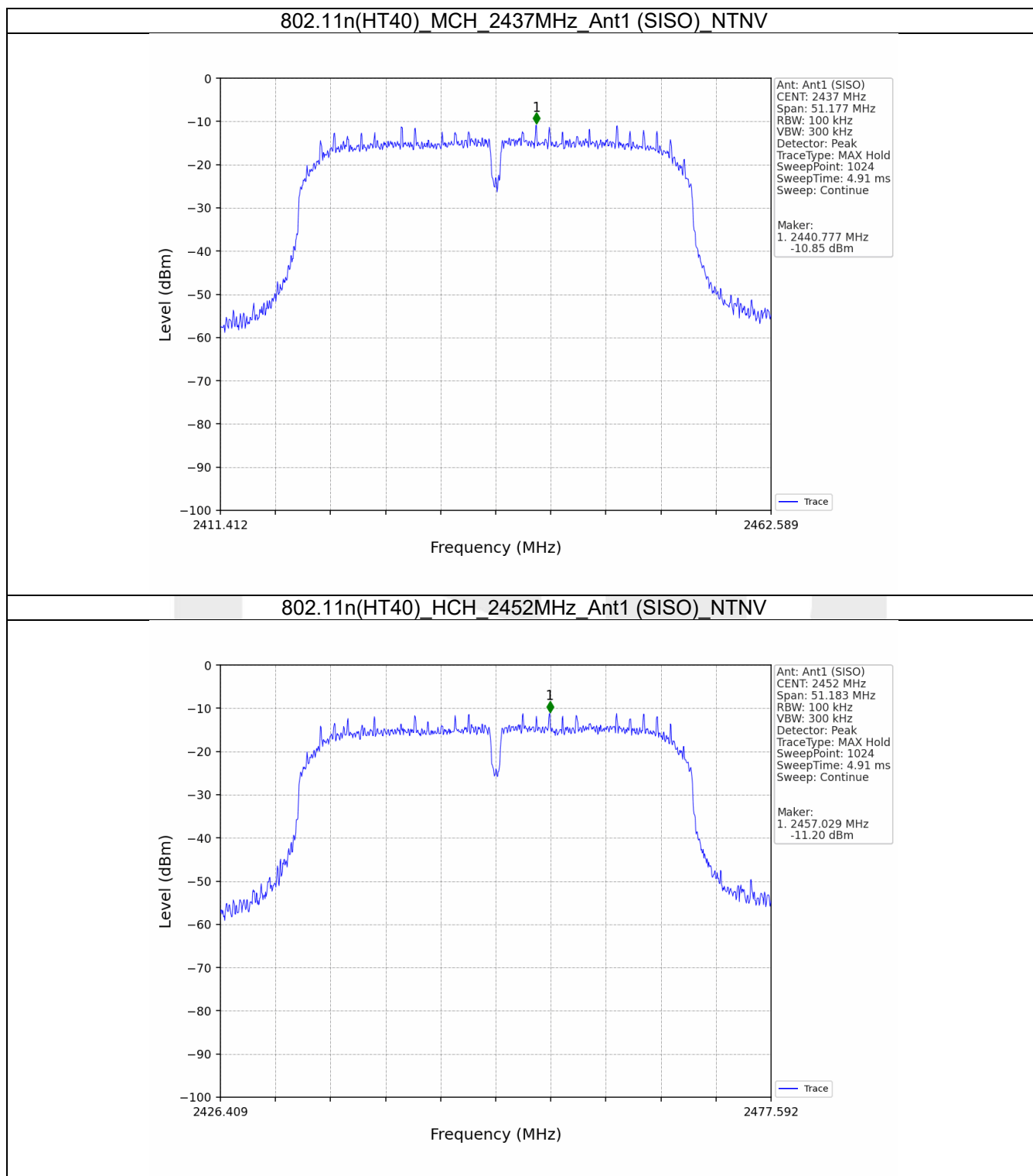




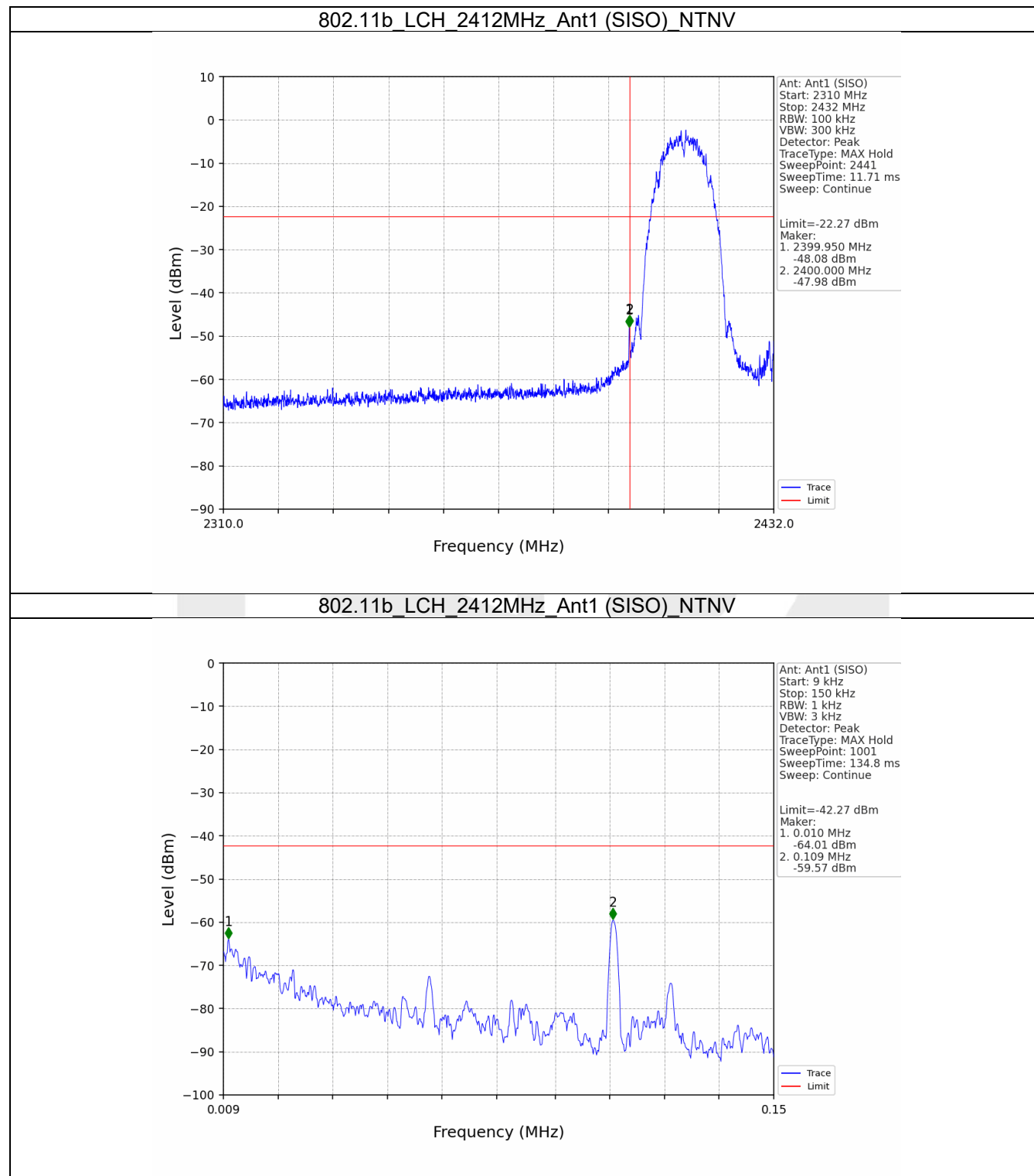


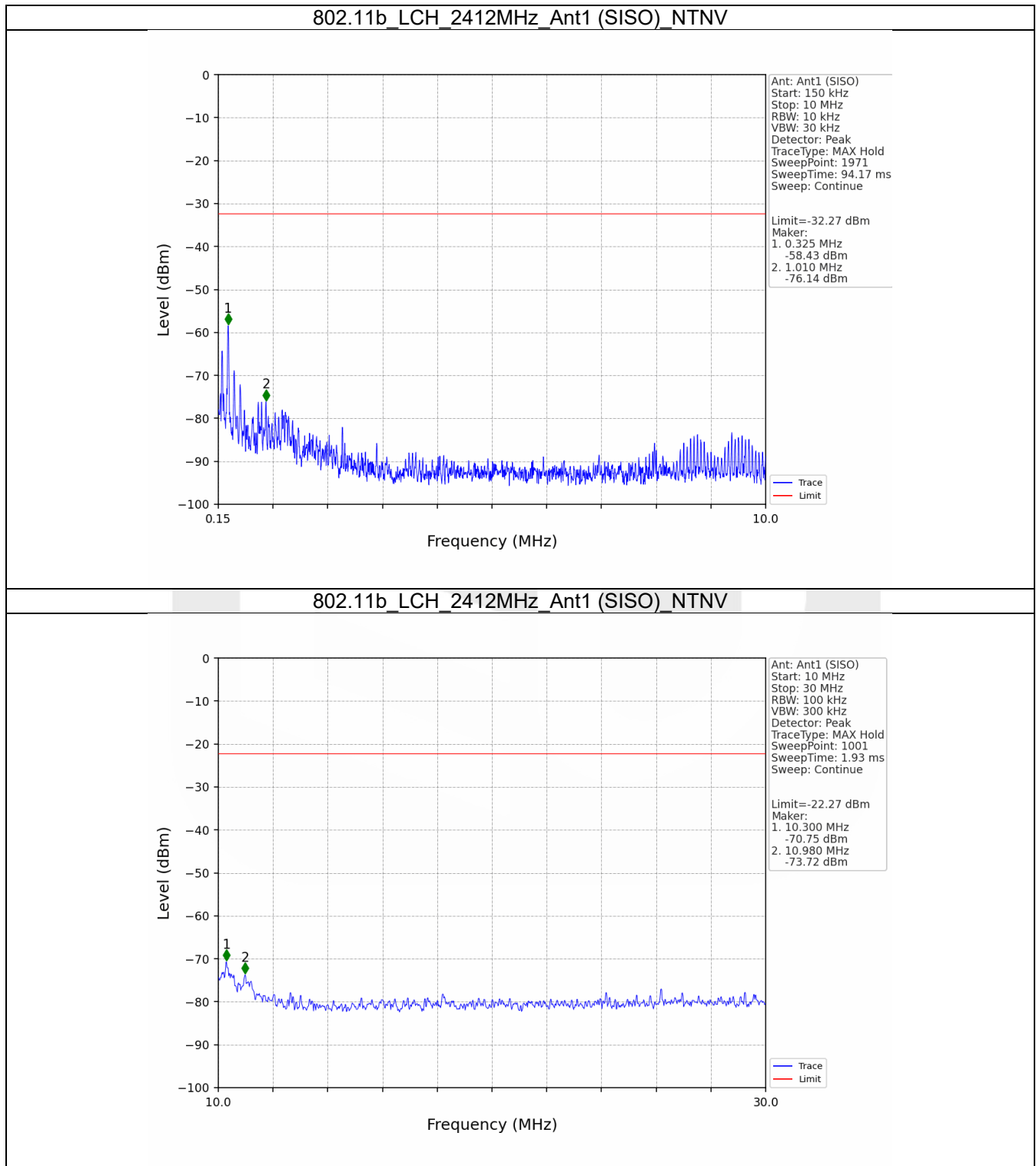


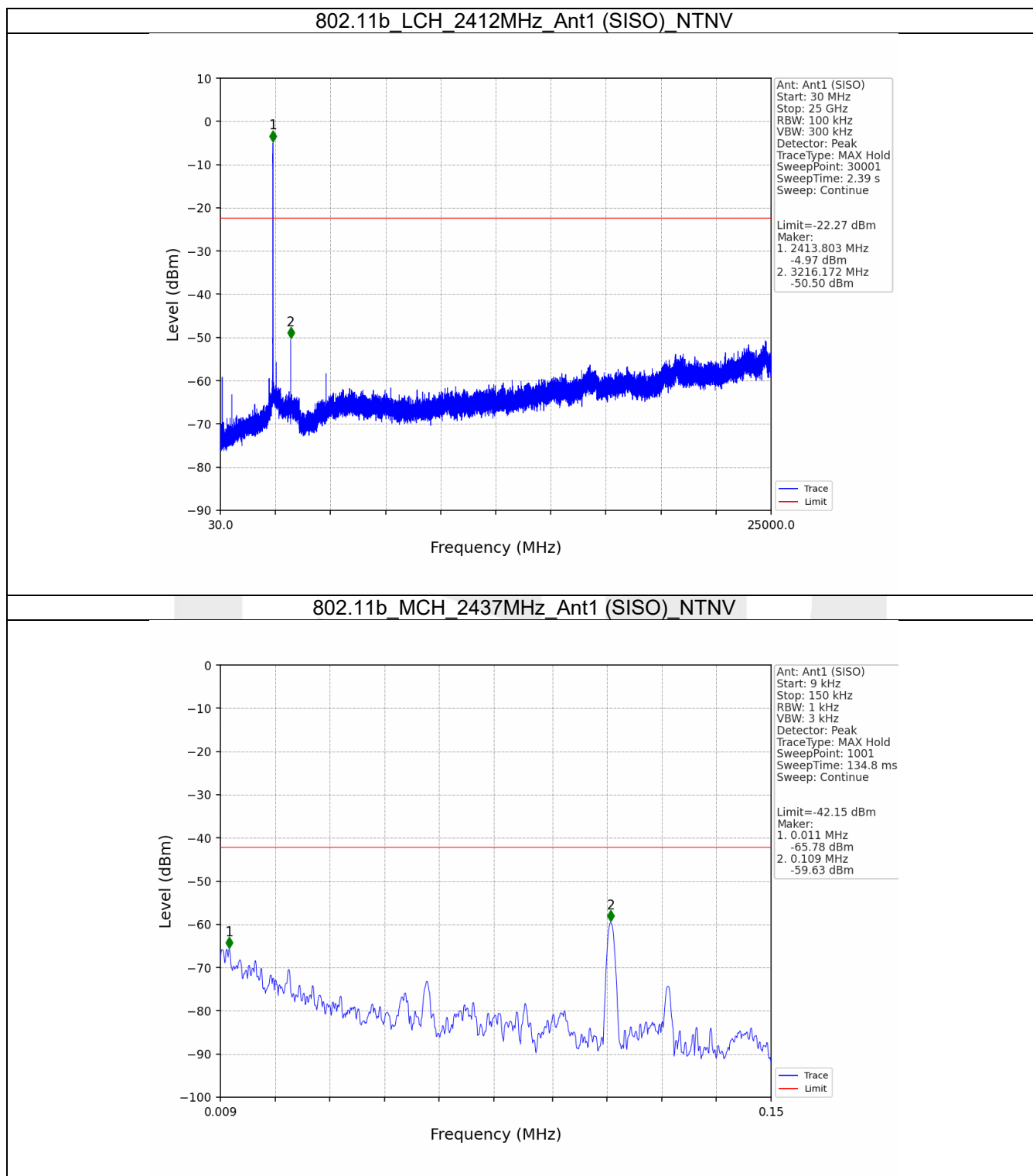


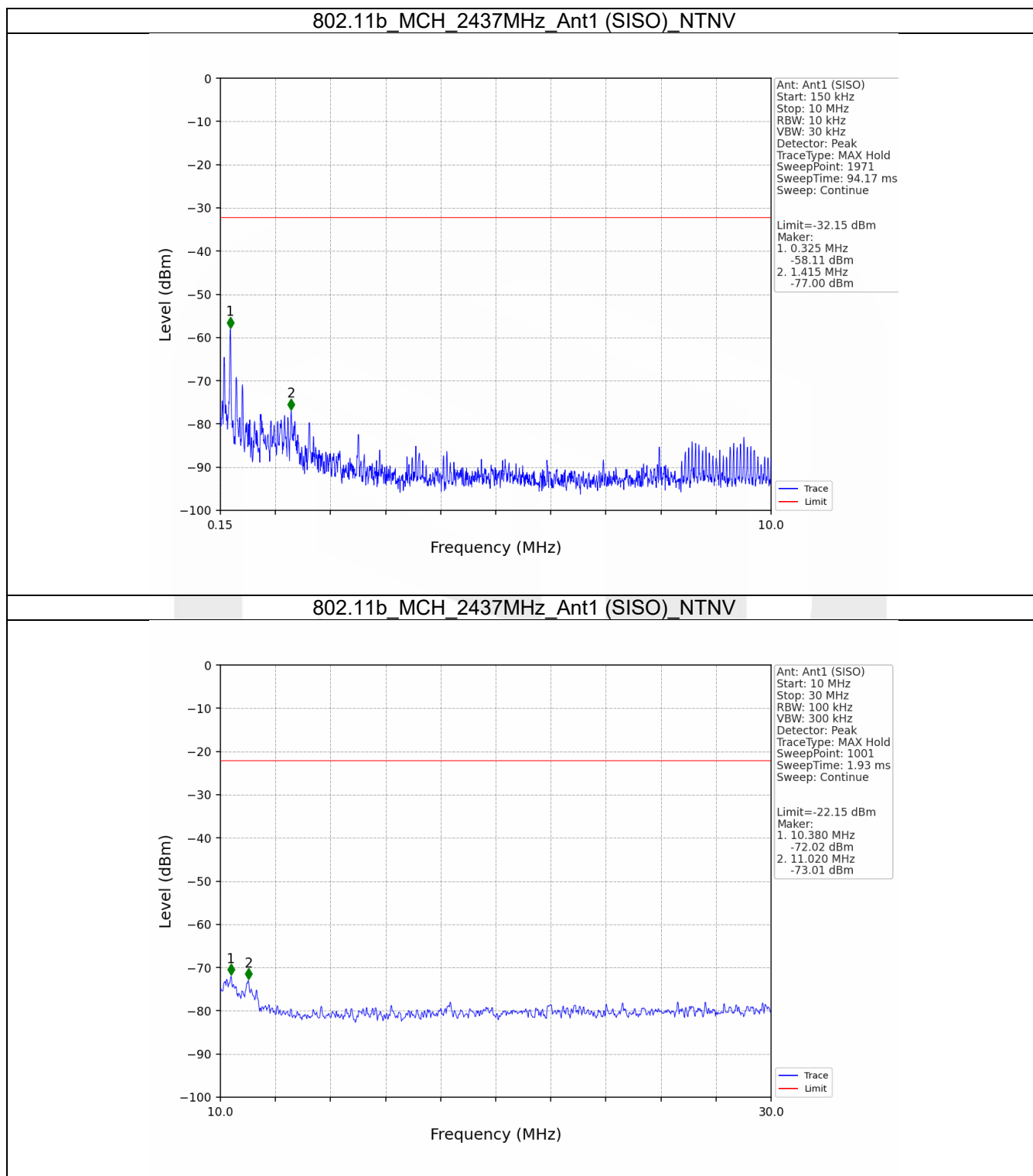


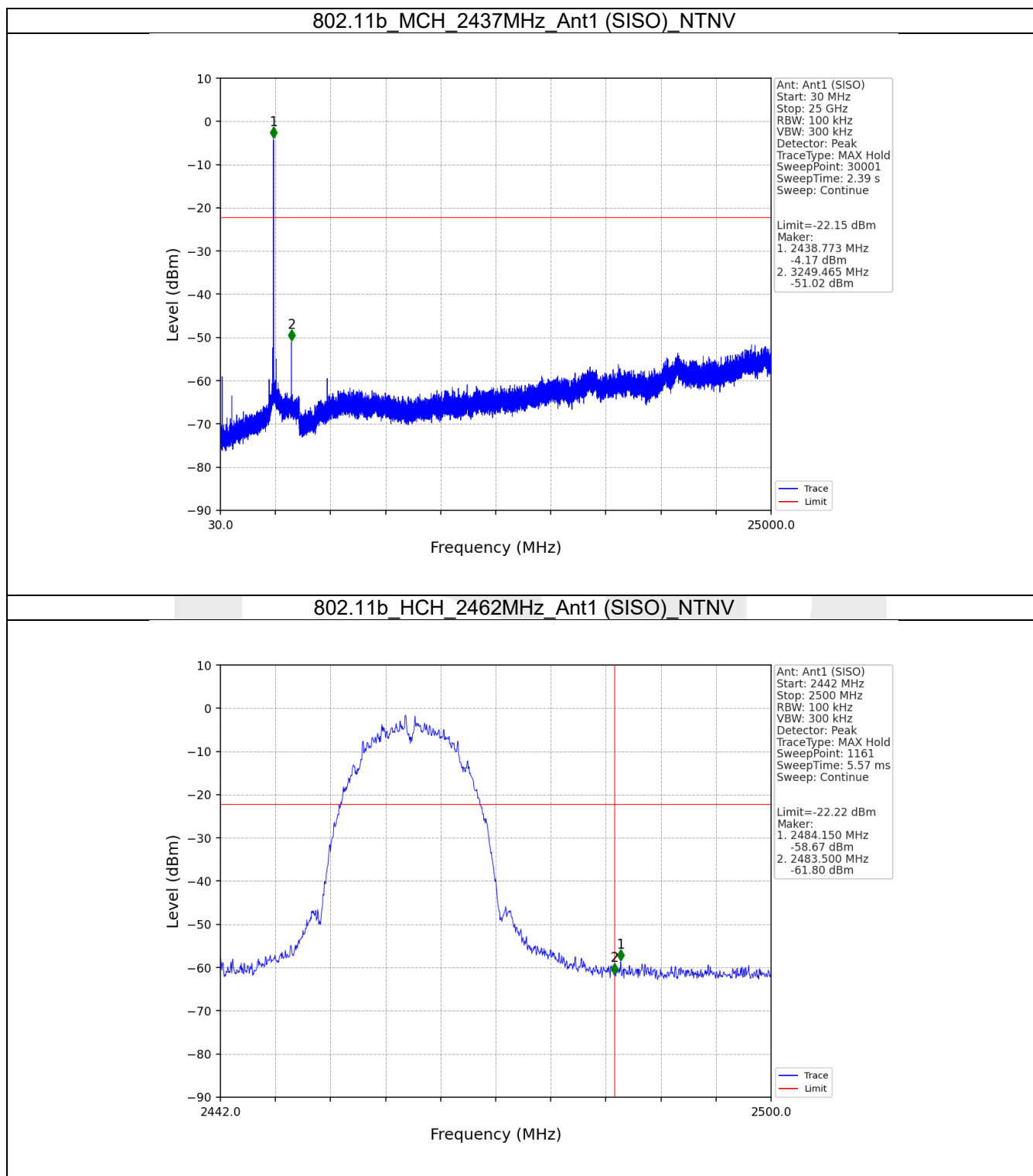
5.2.2 CSE

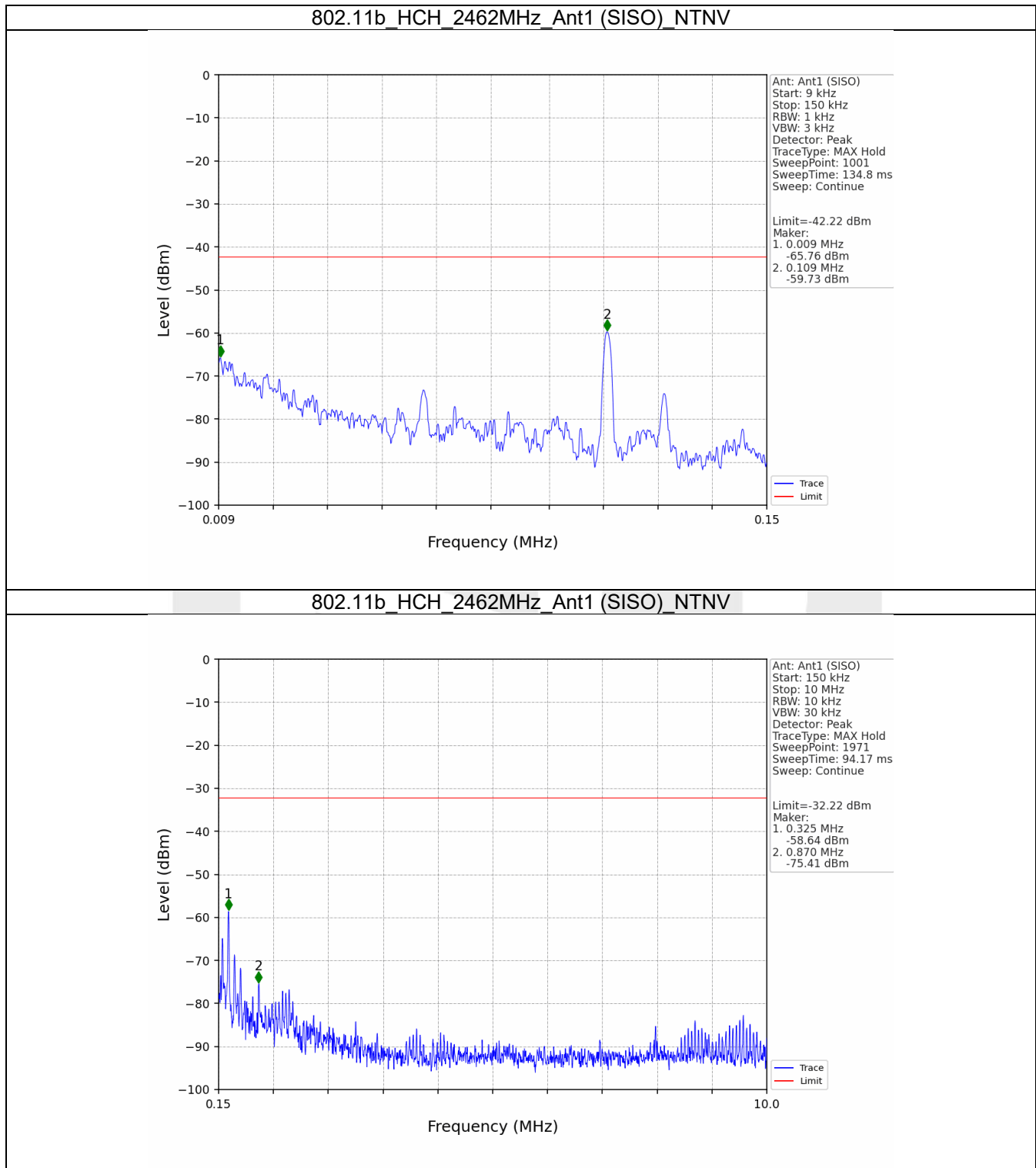


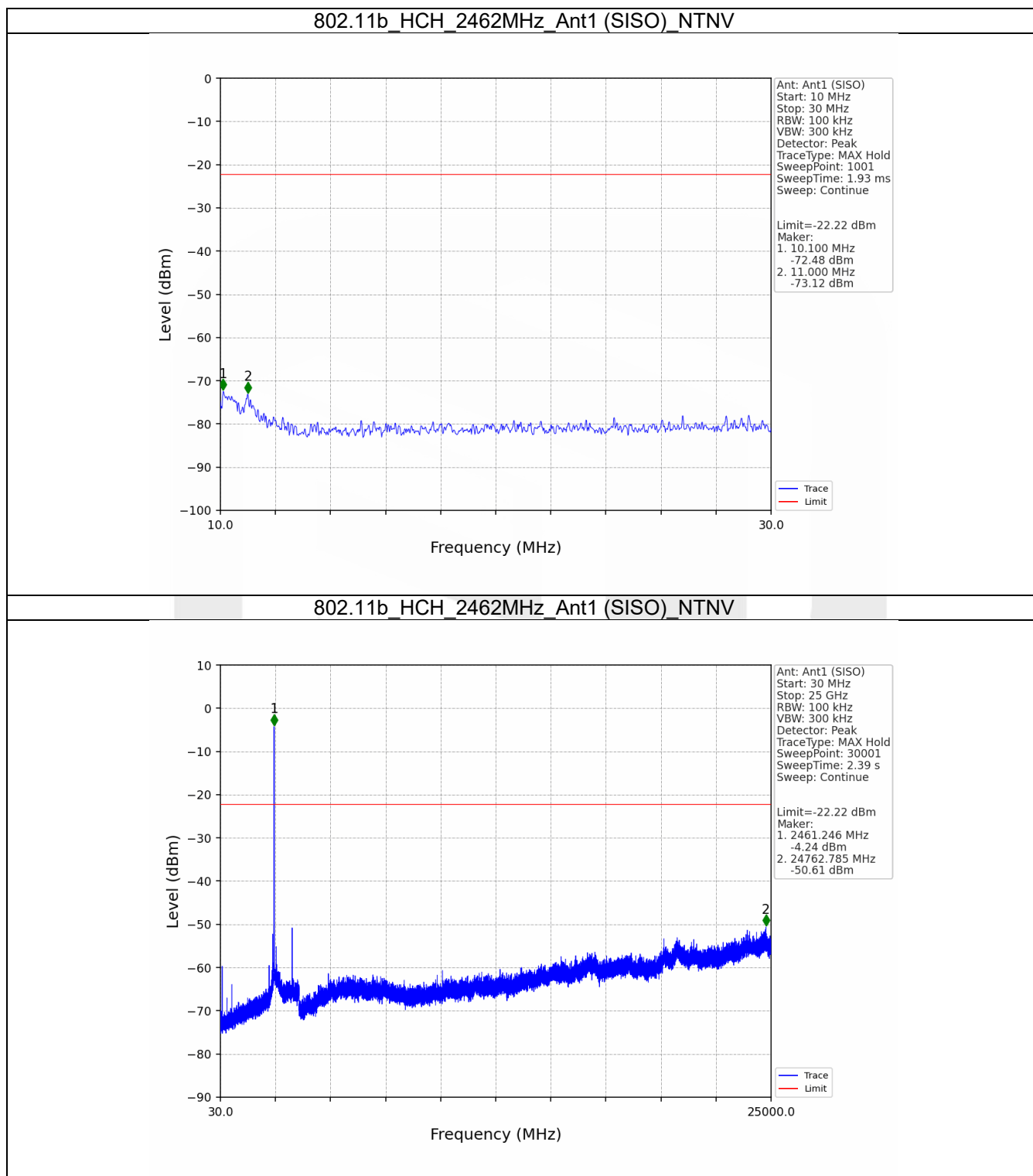


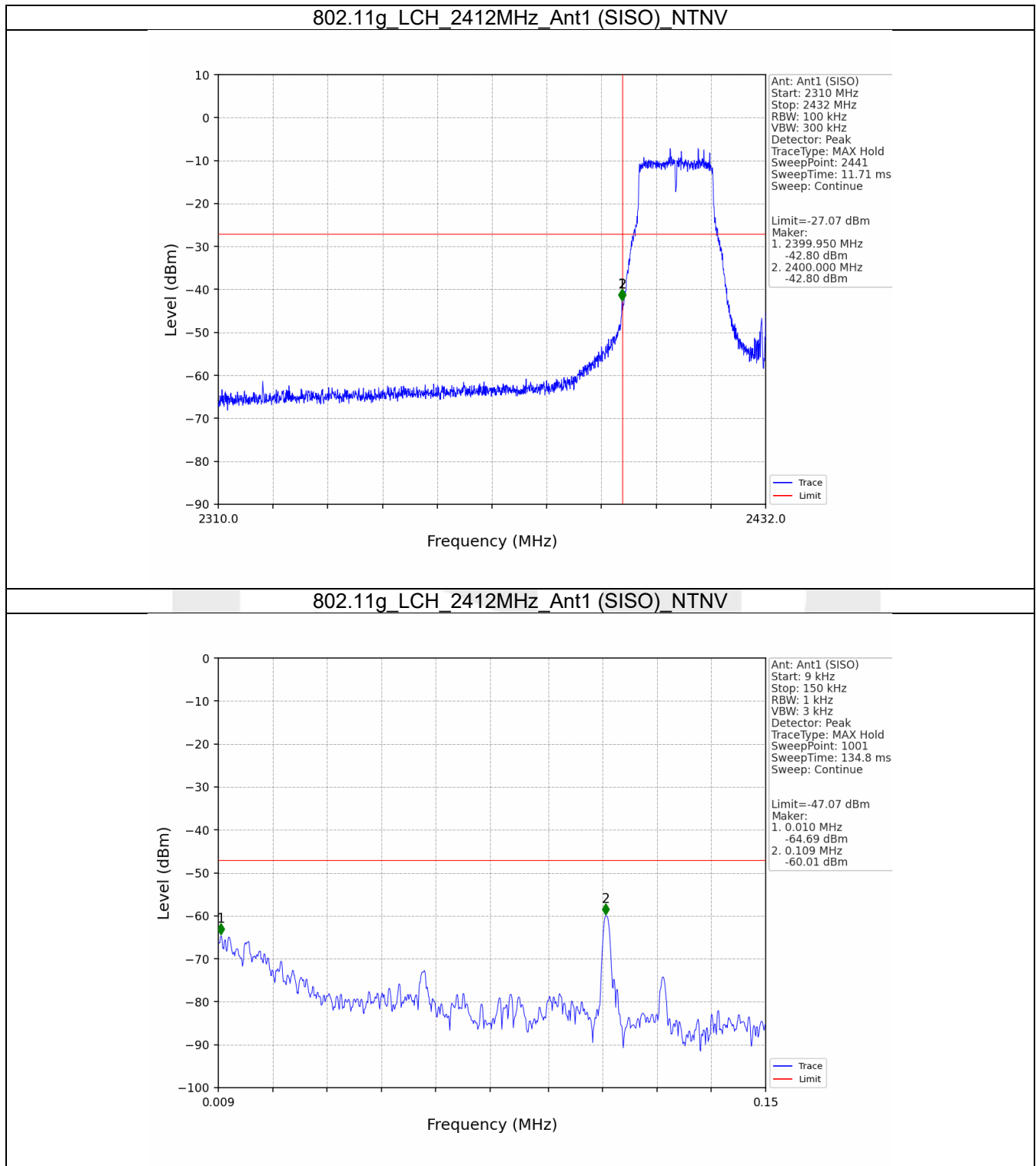


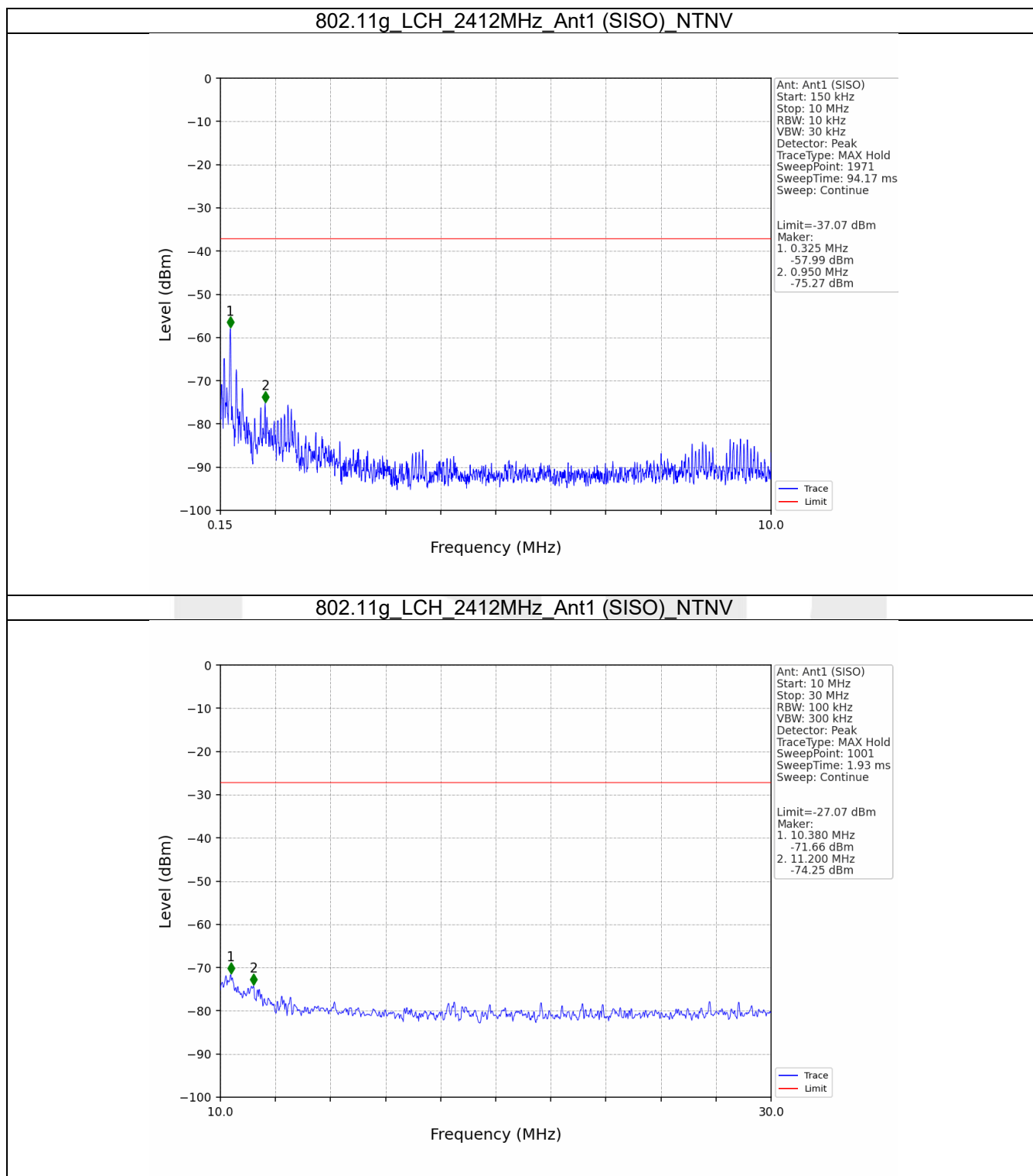


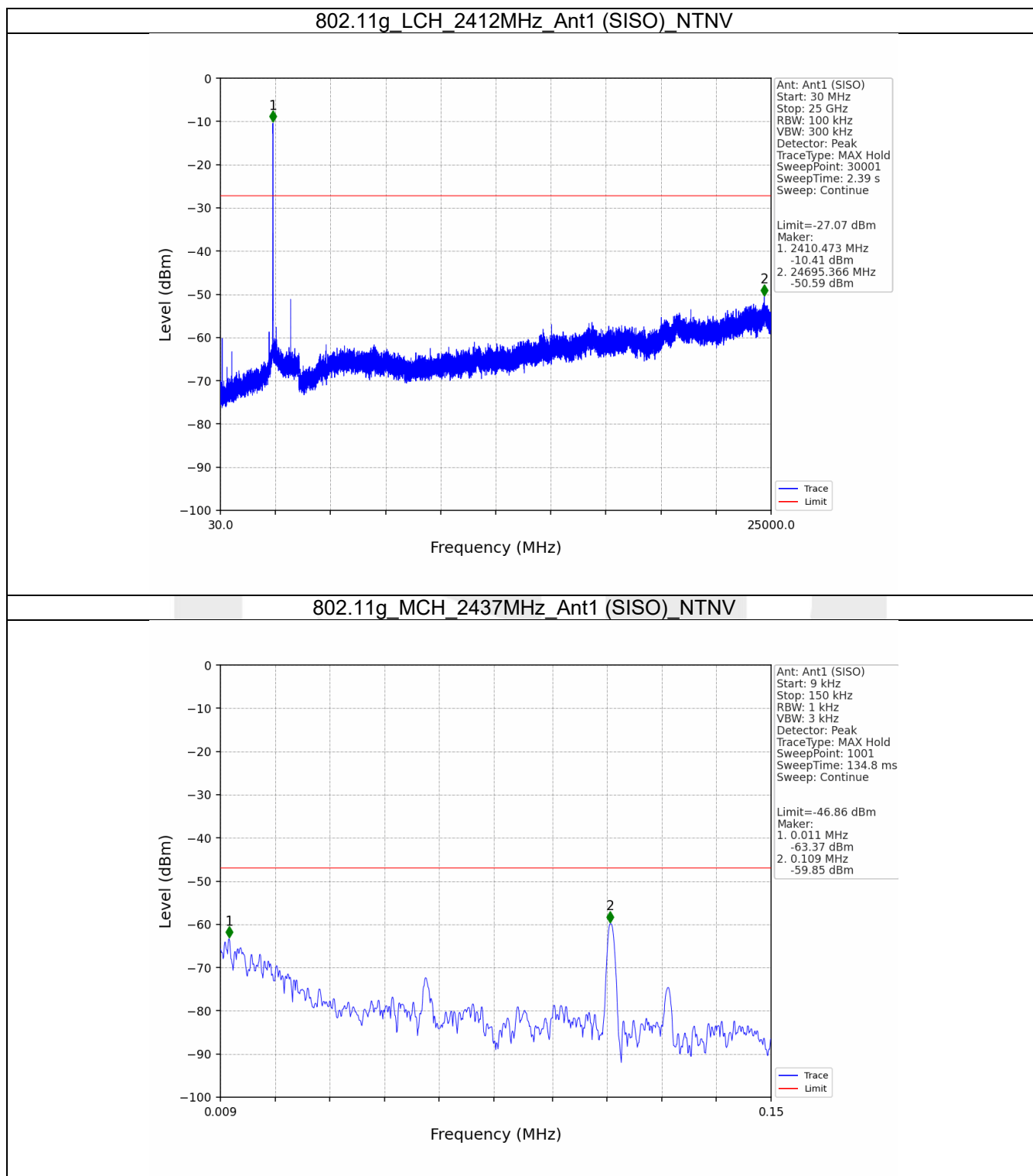


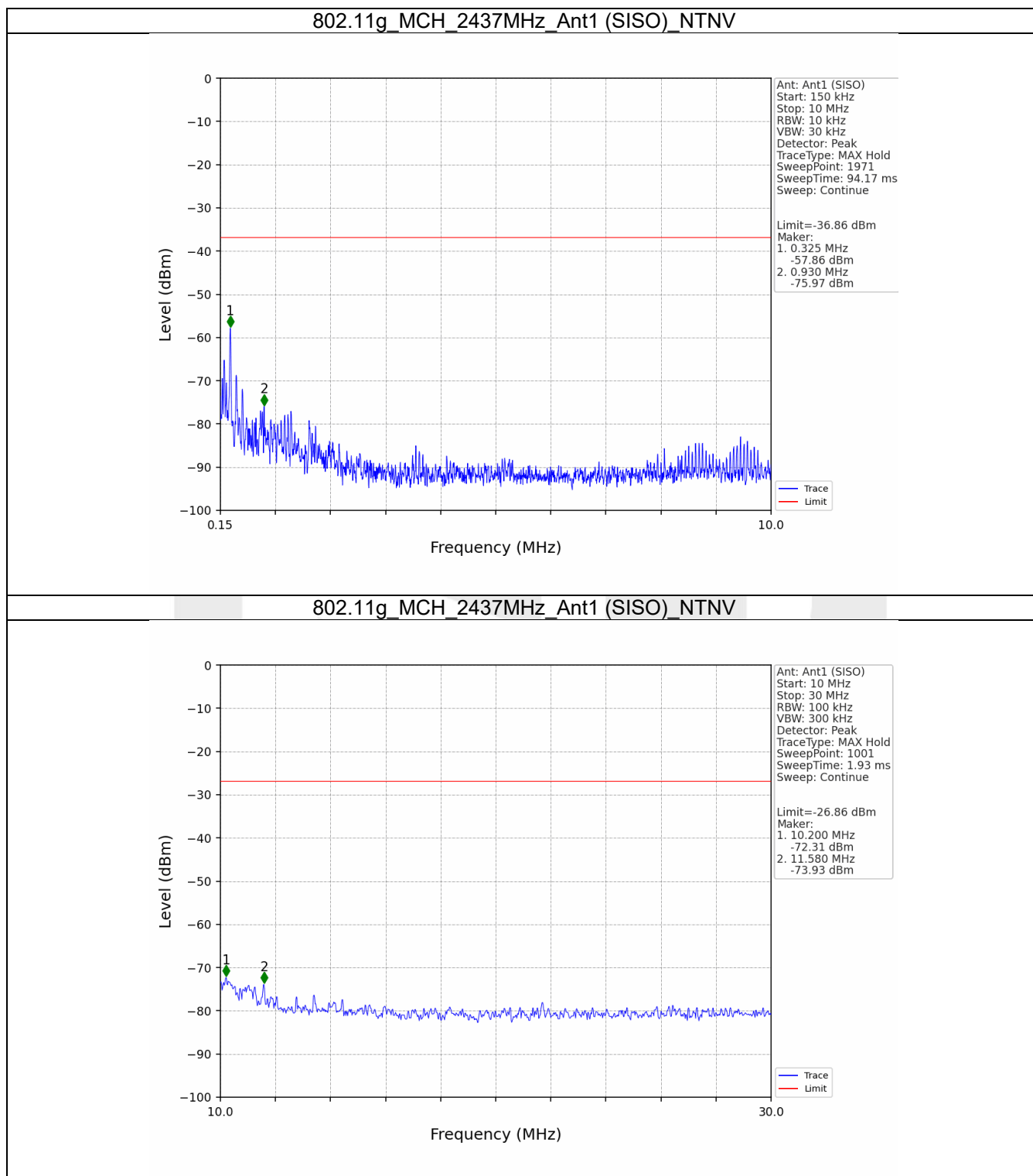


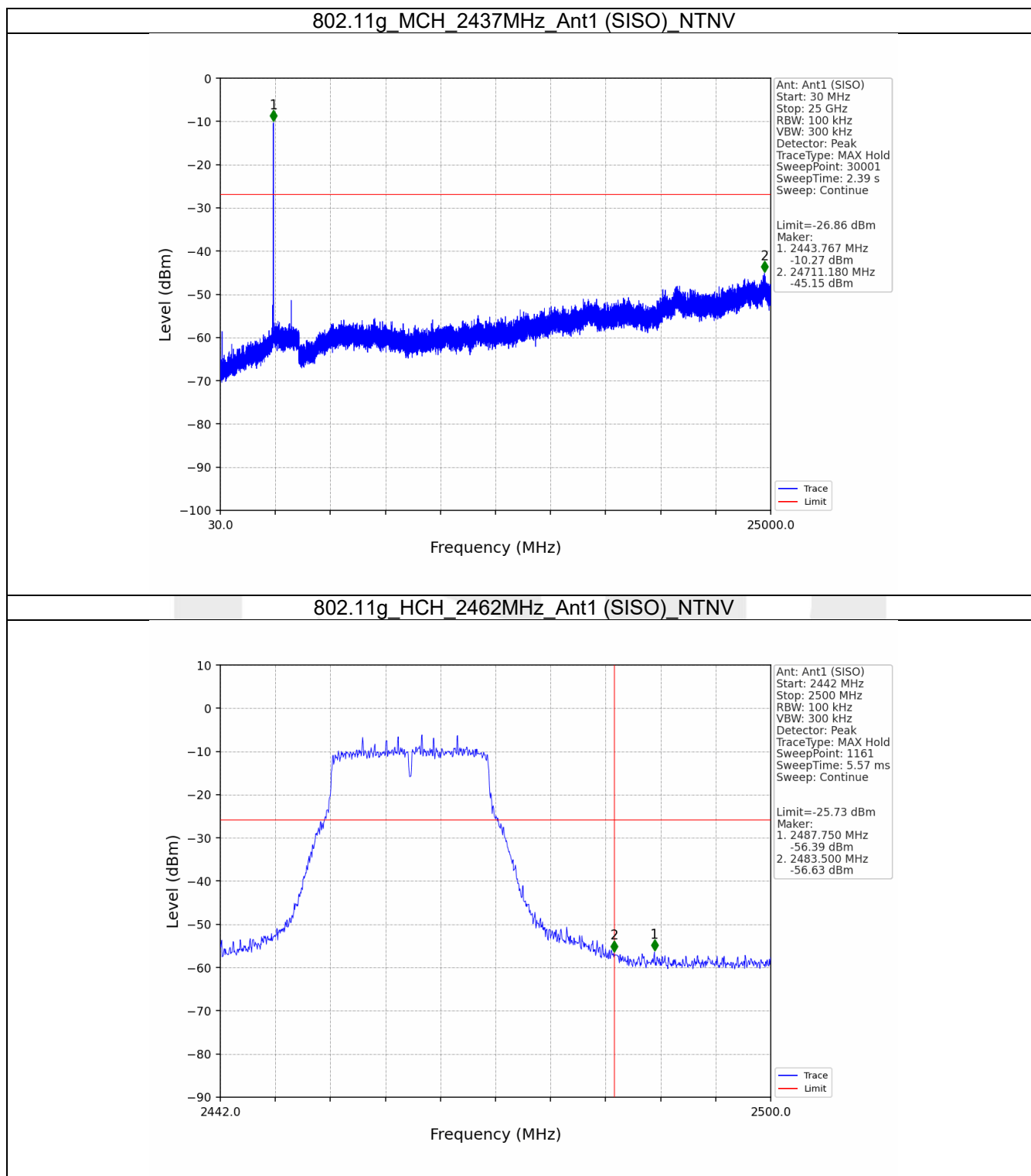


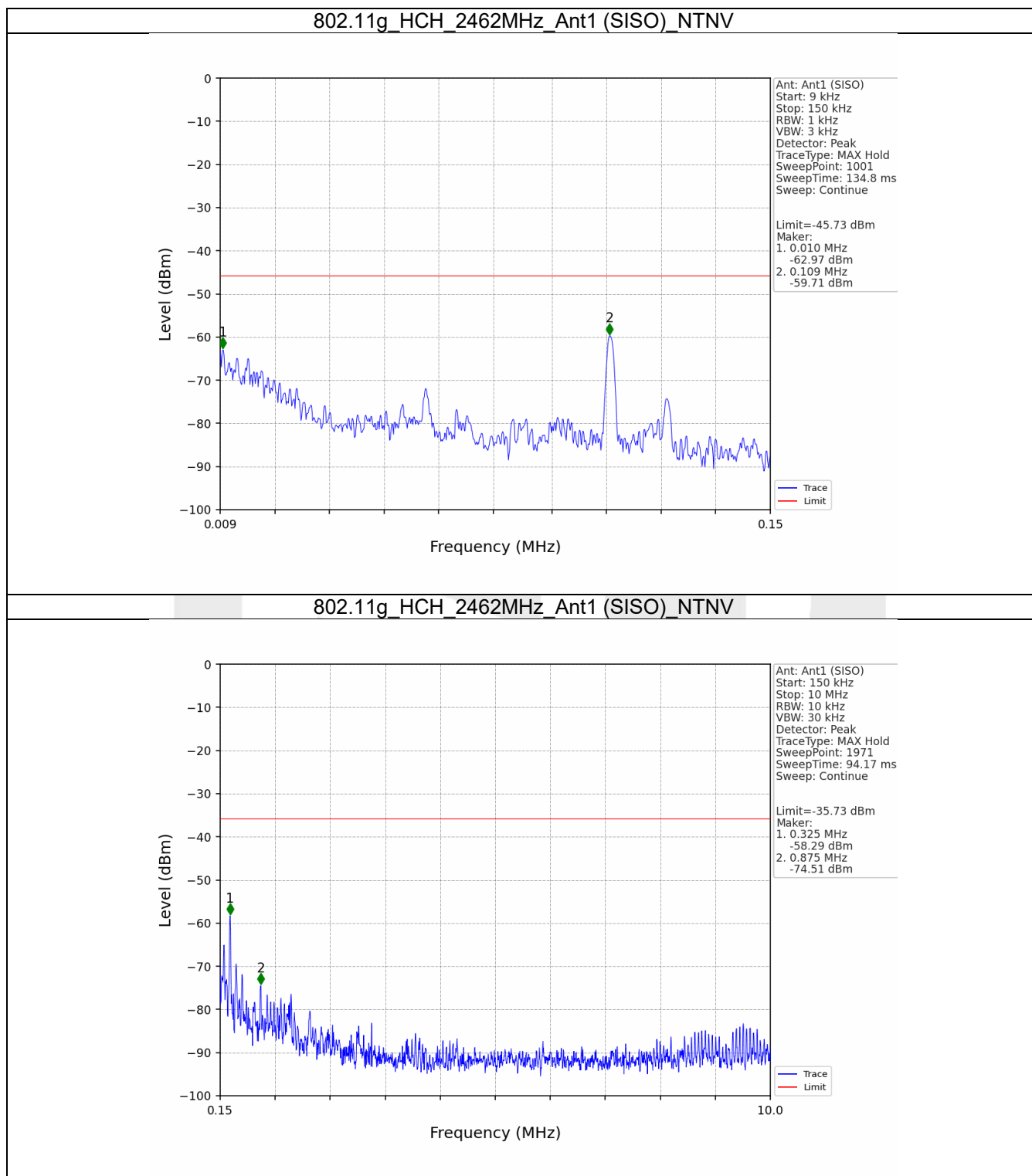


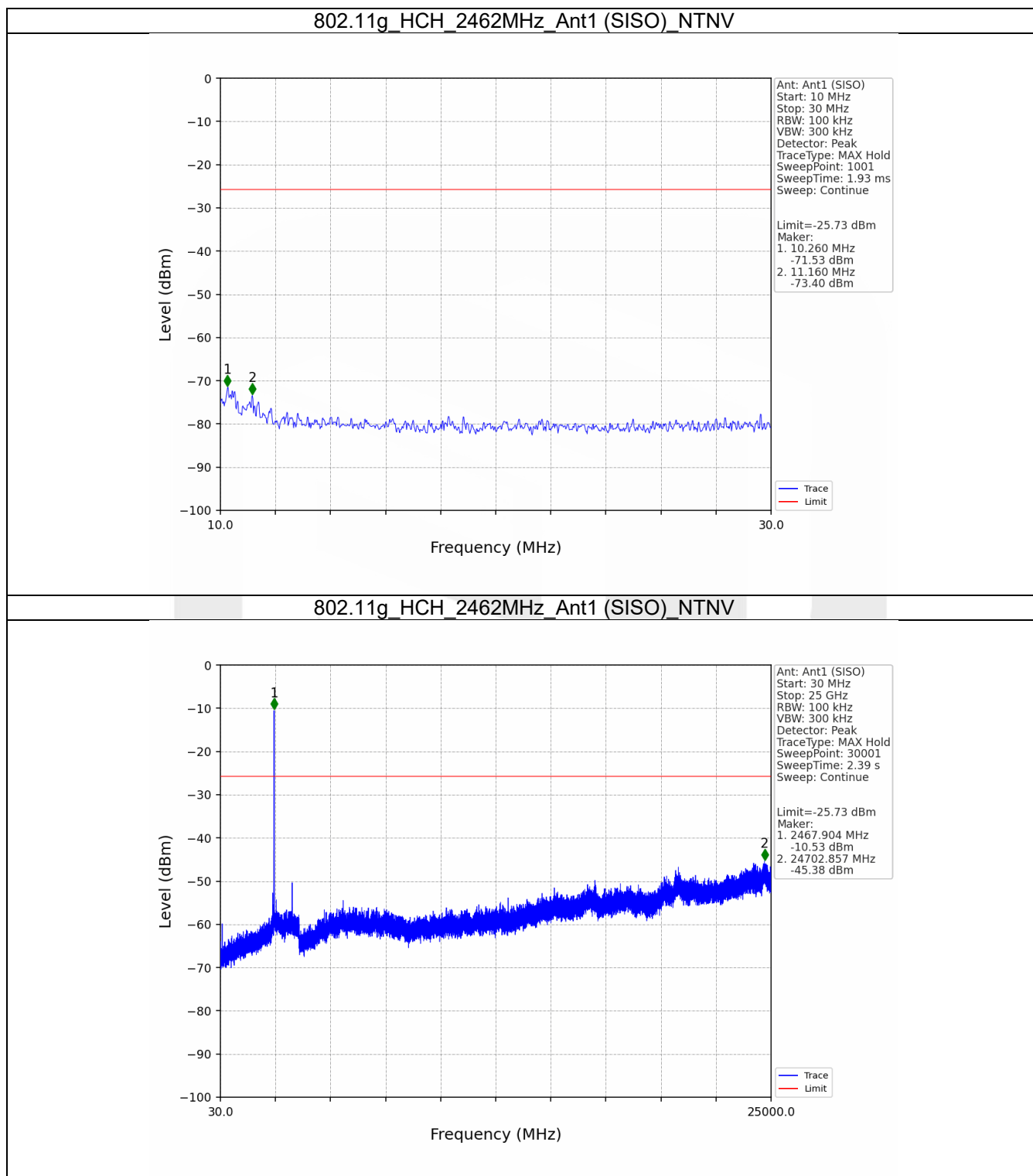


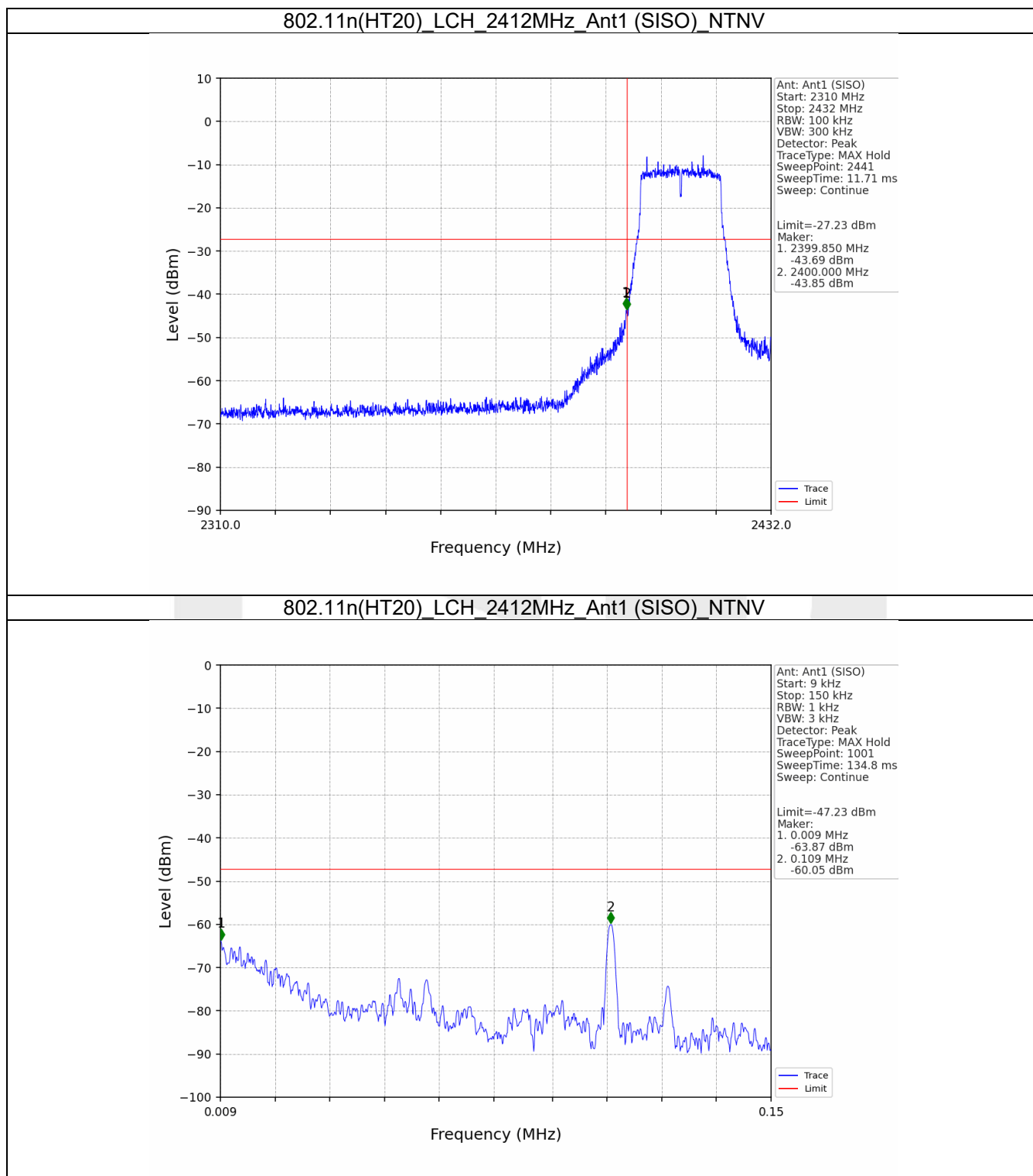


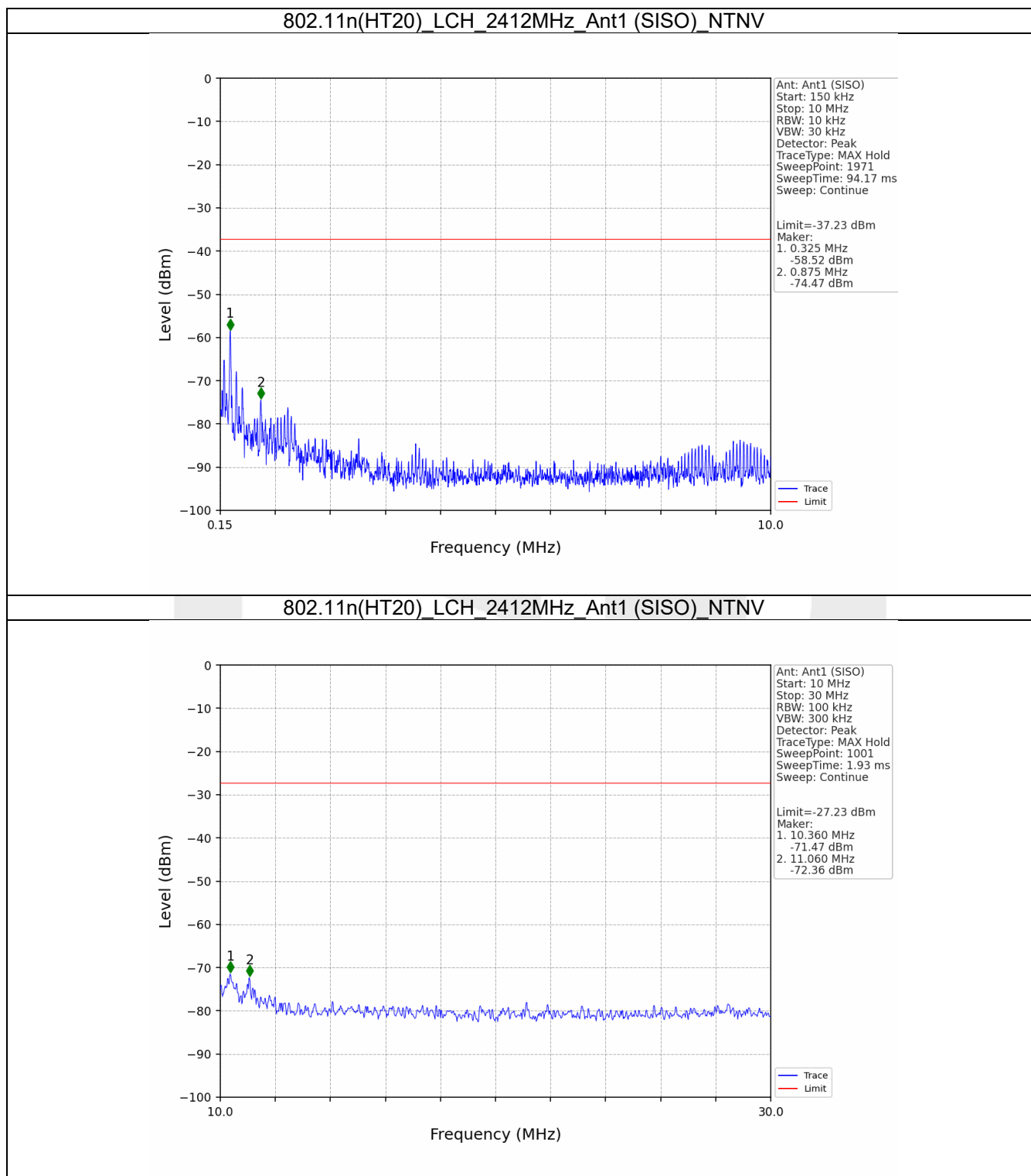


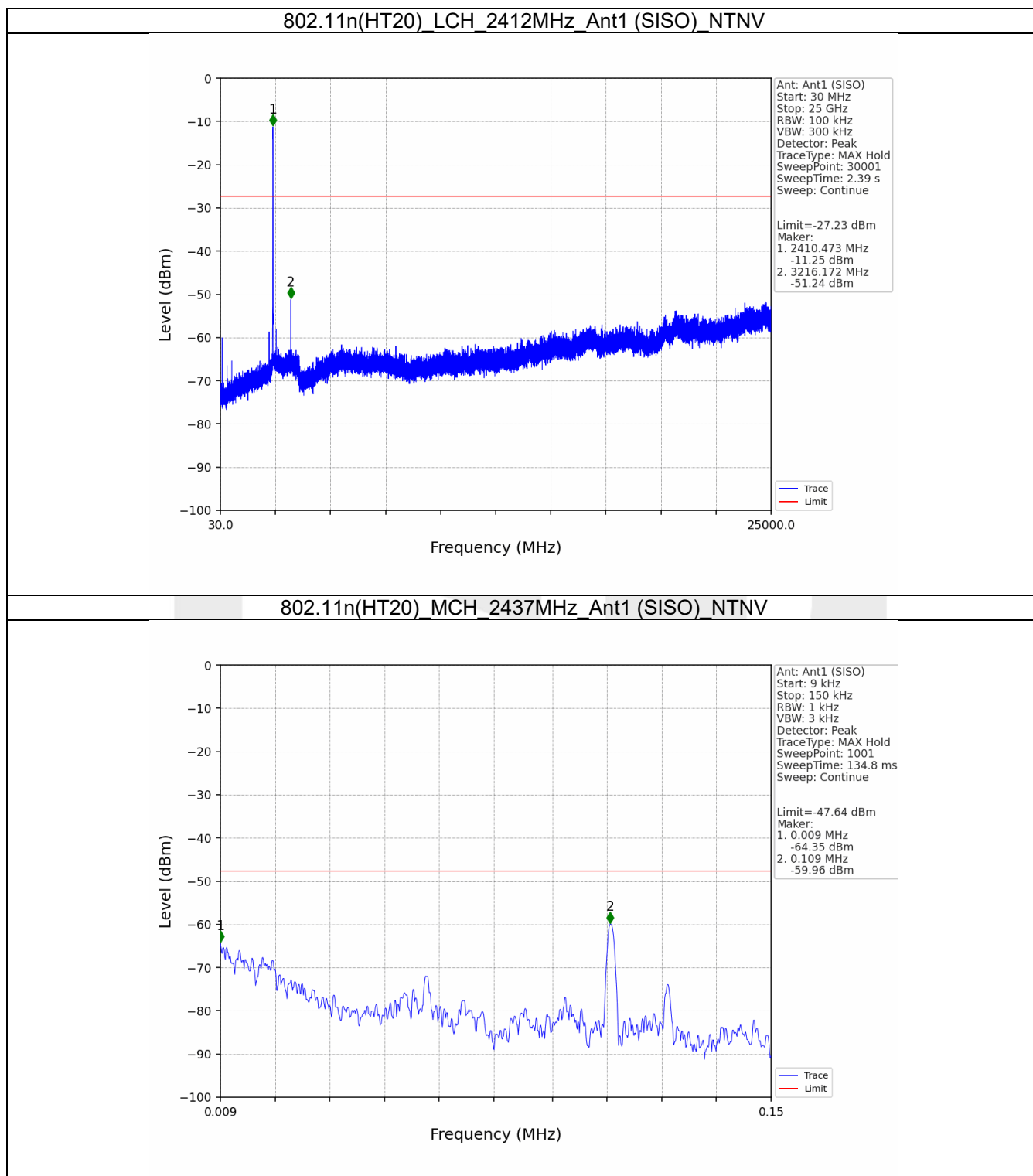


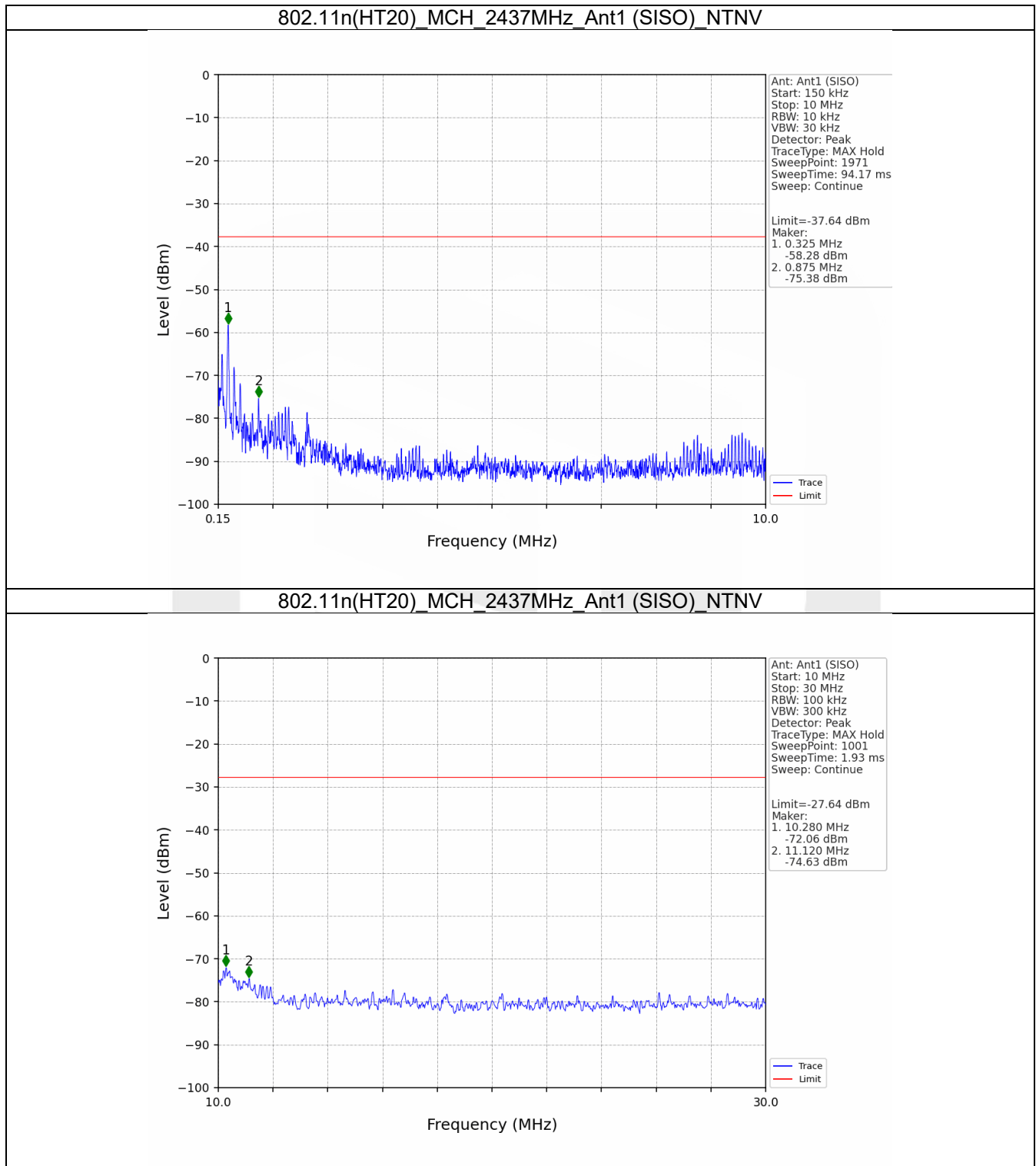


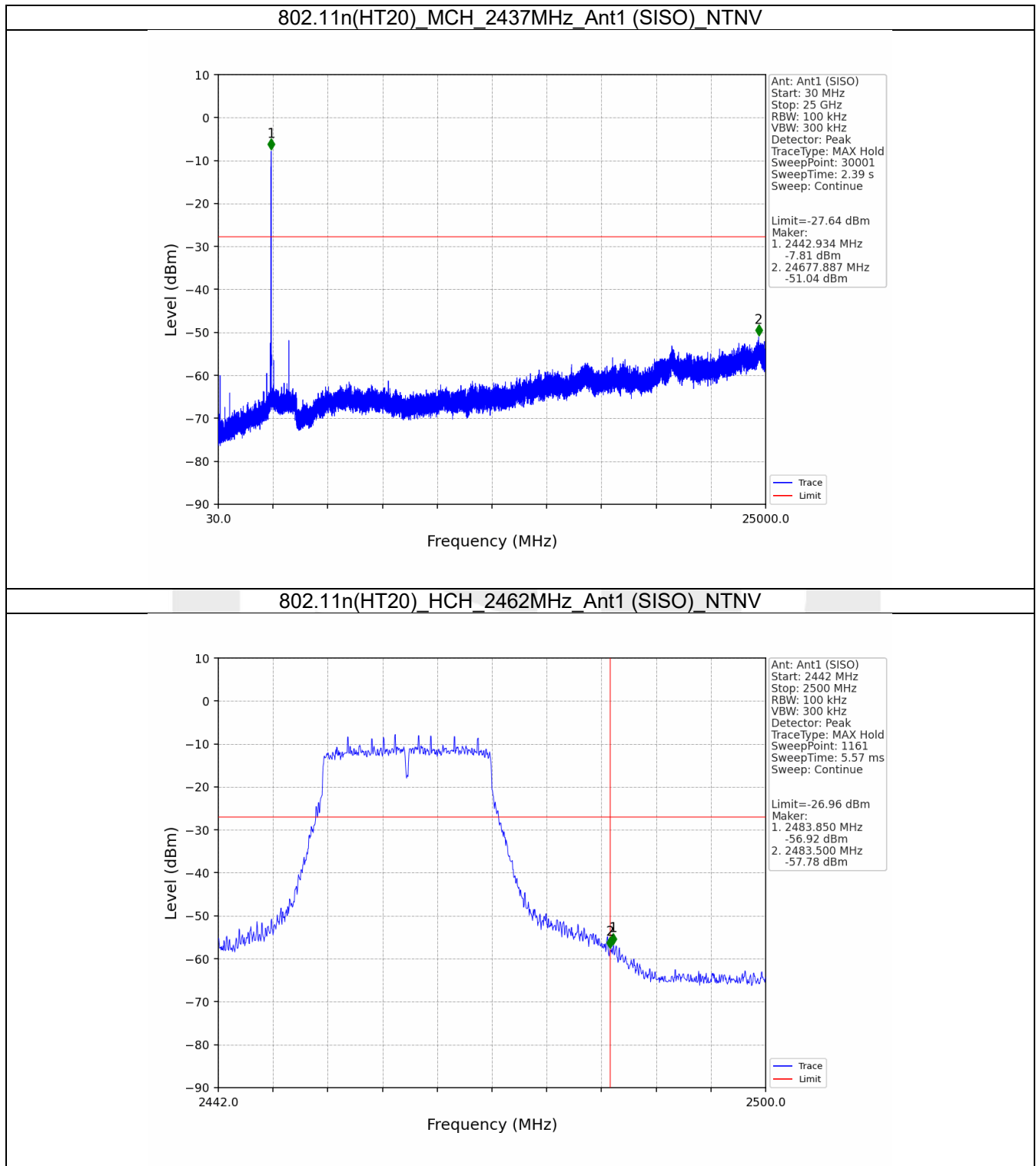


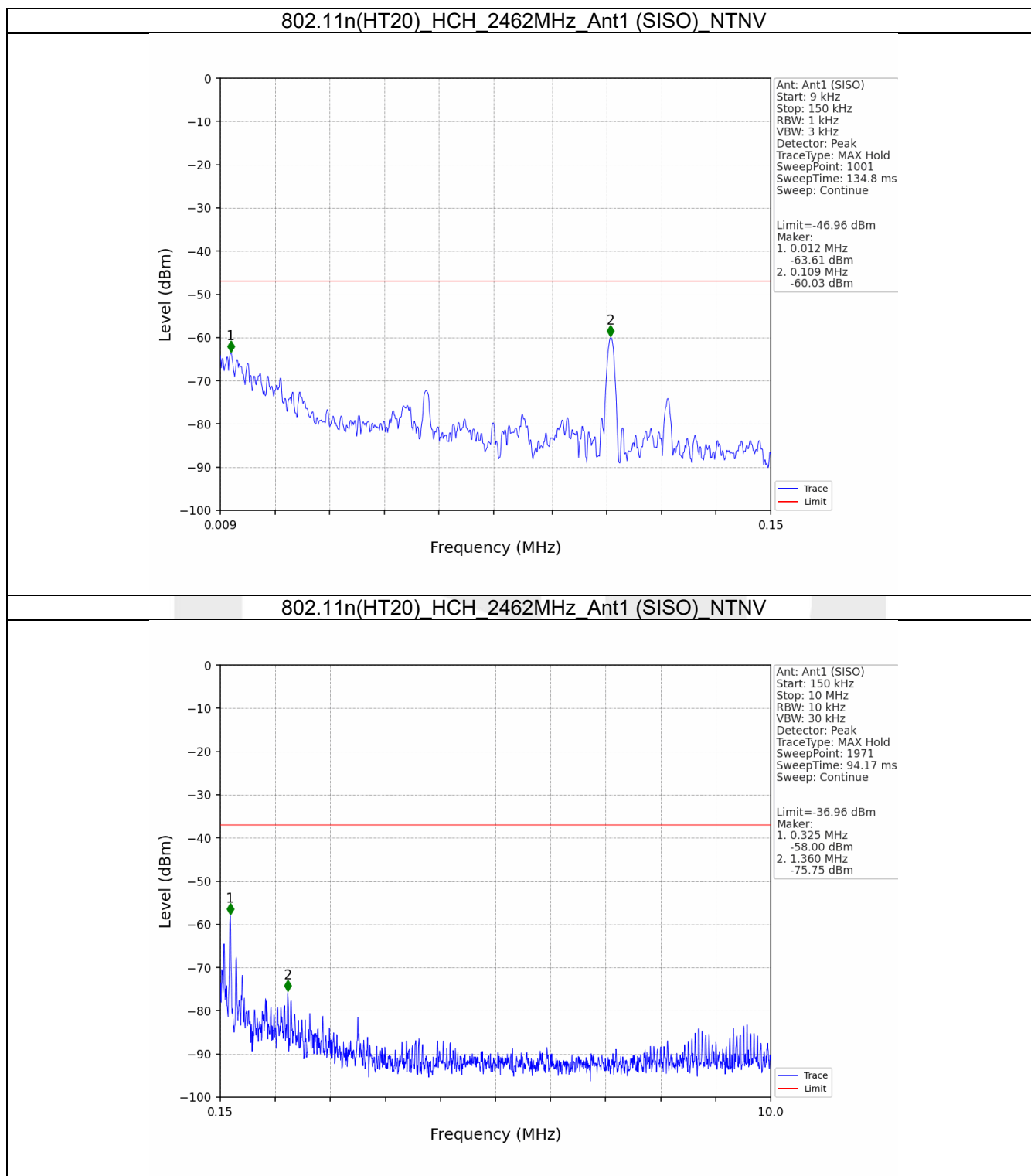


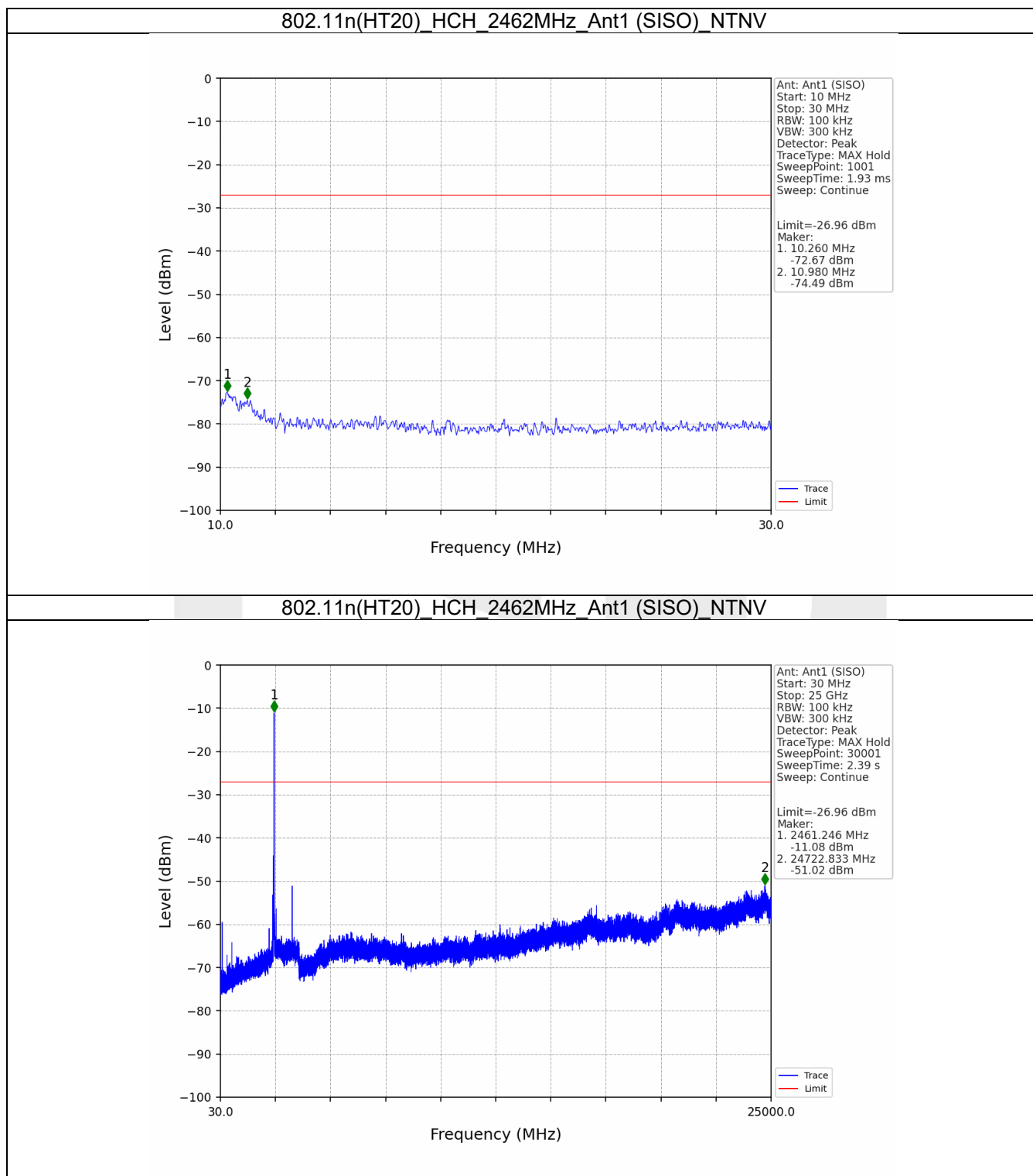


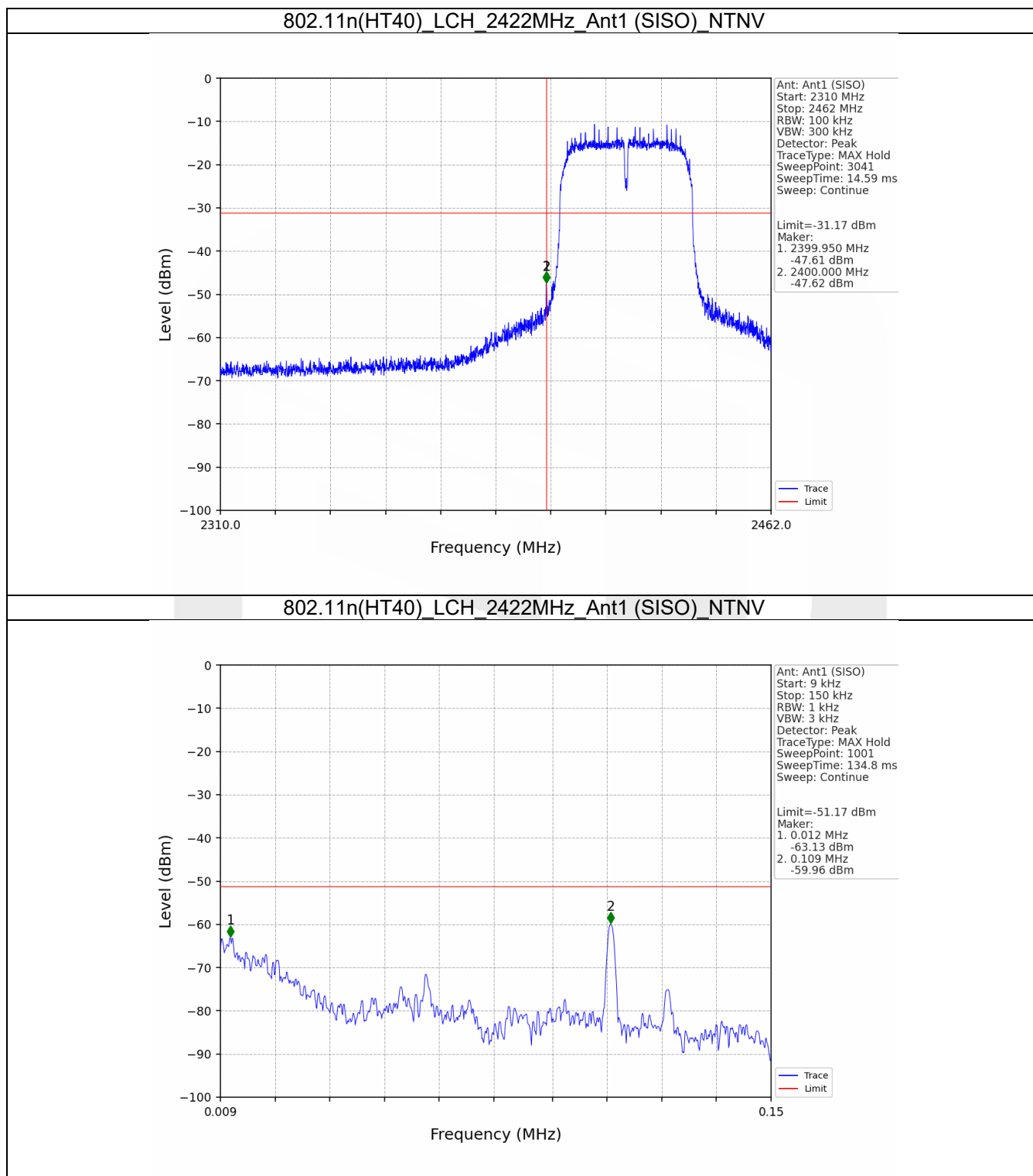


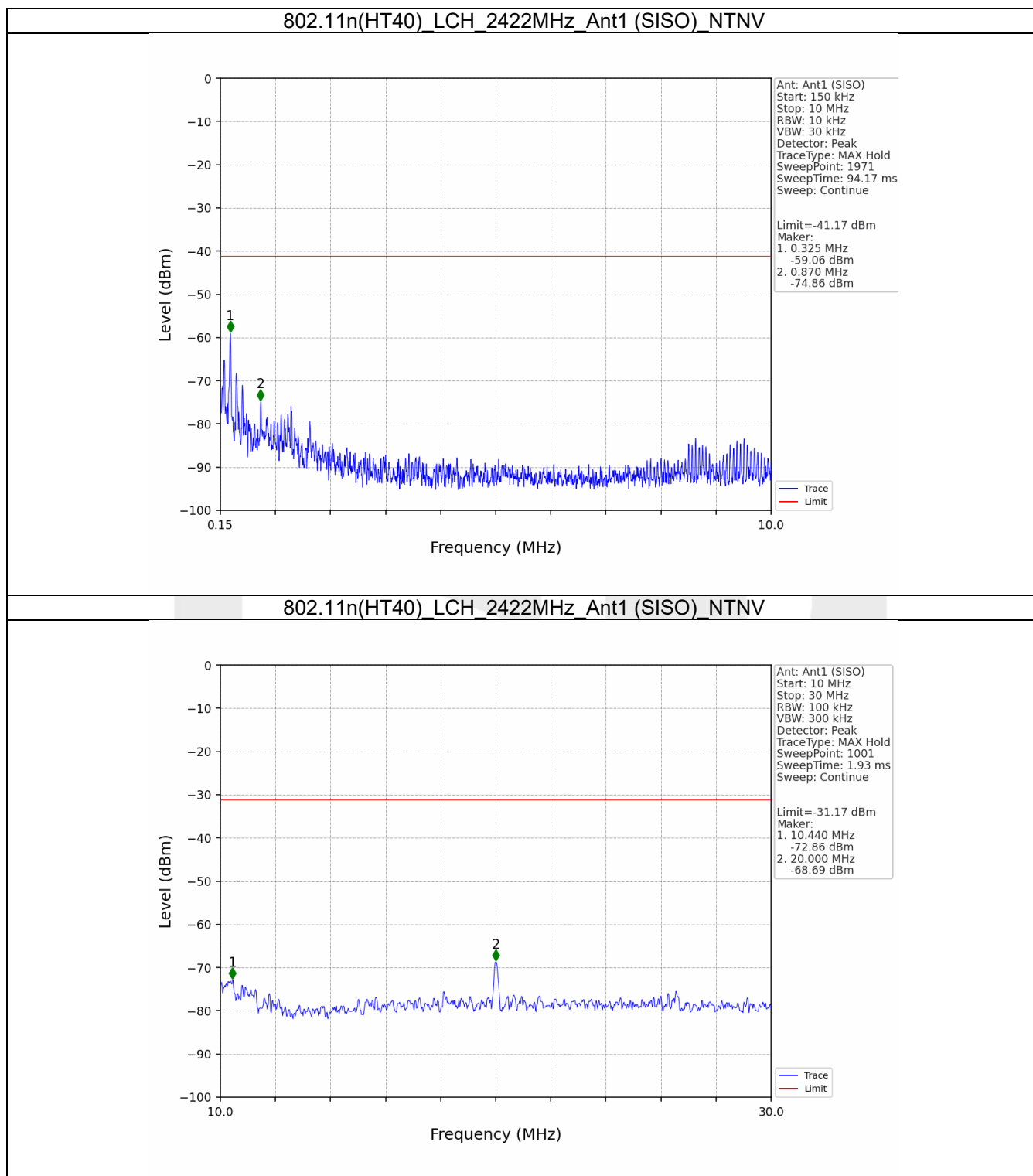


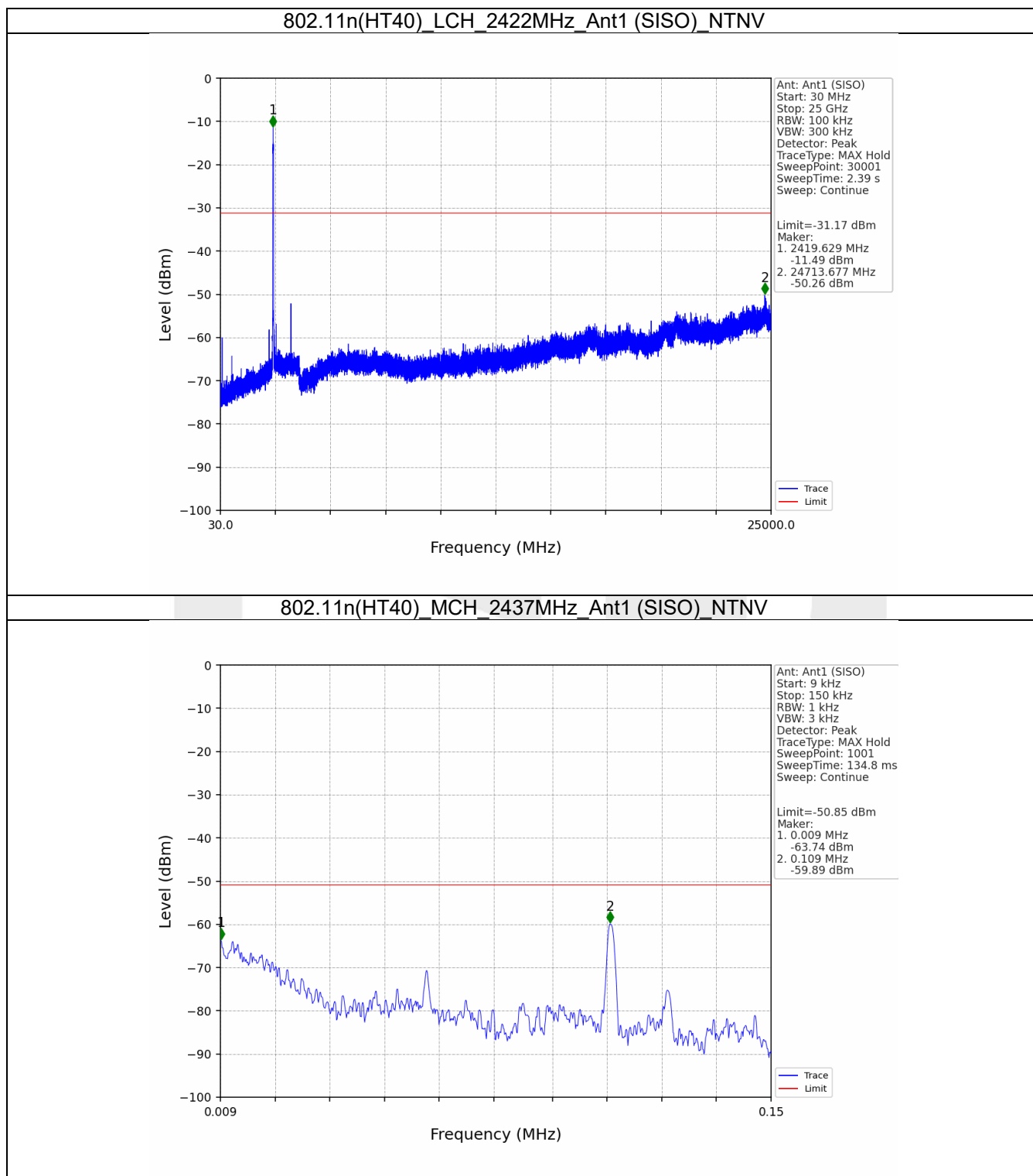


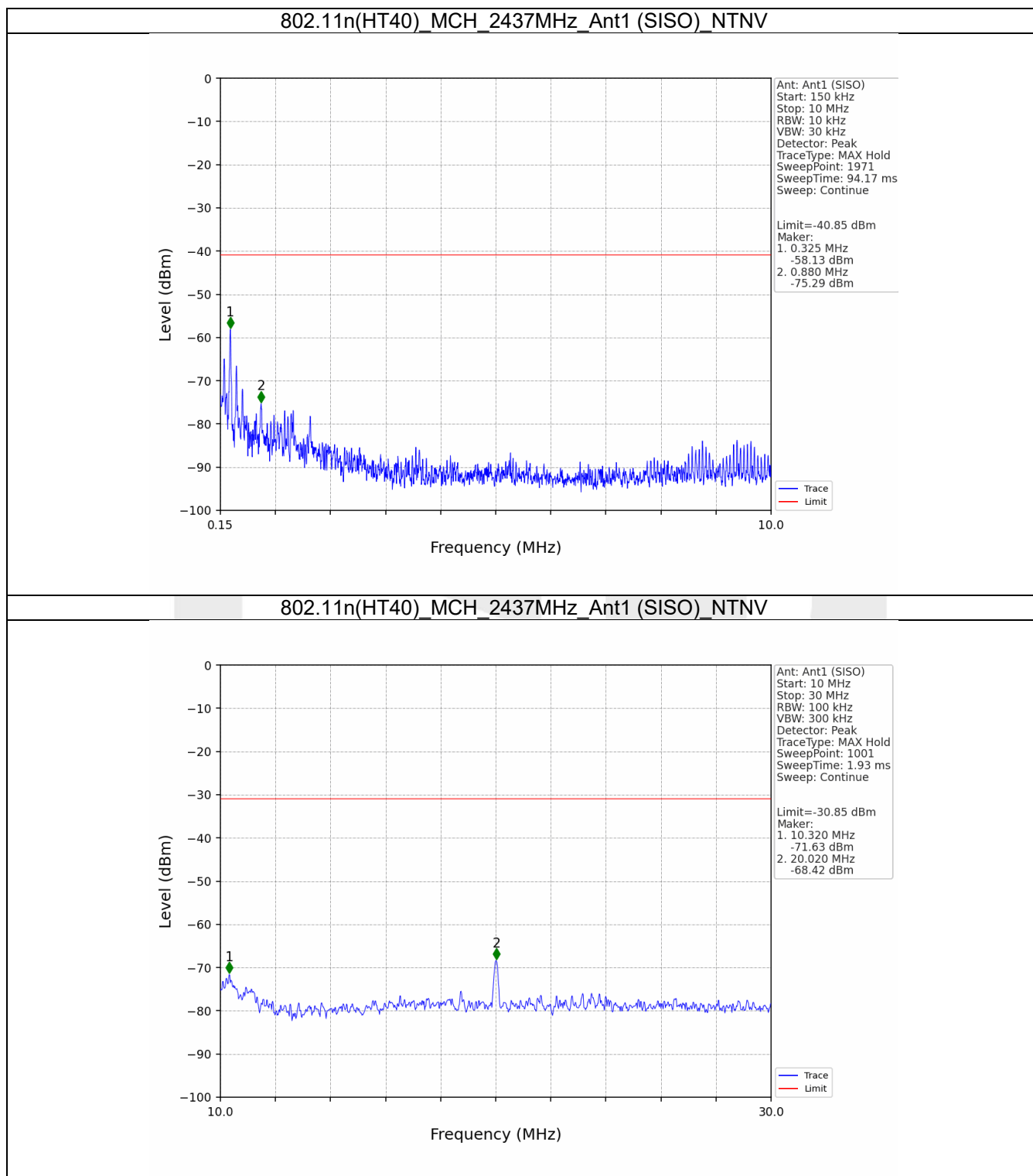


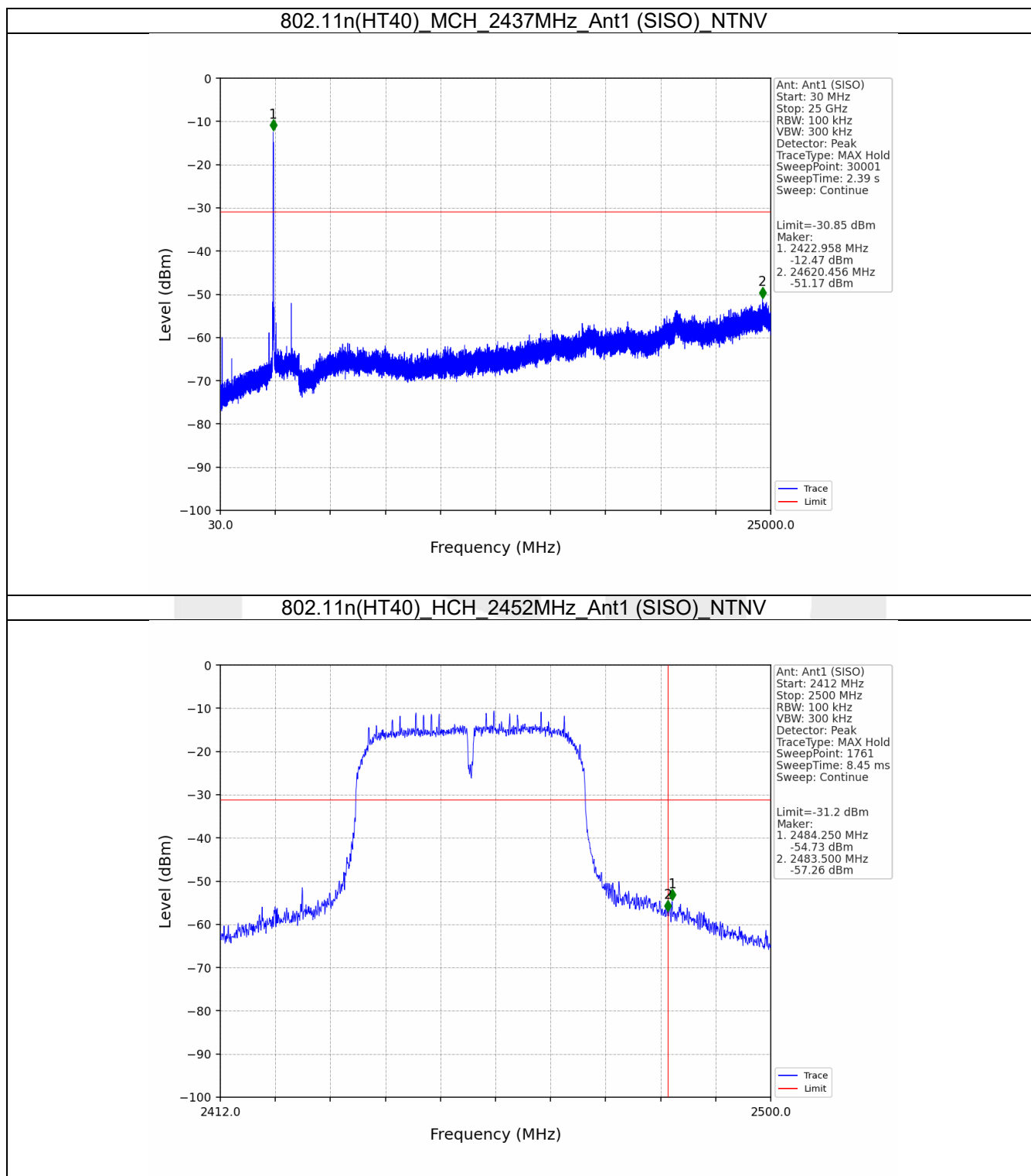


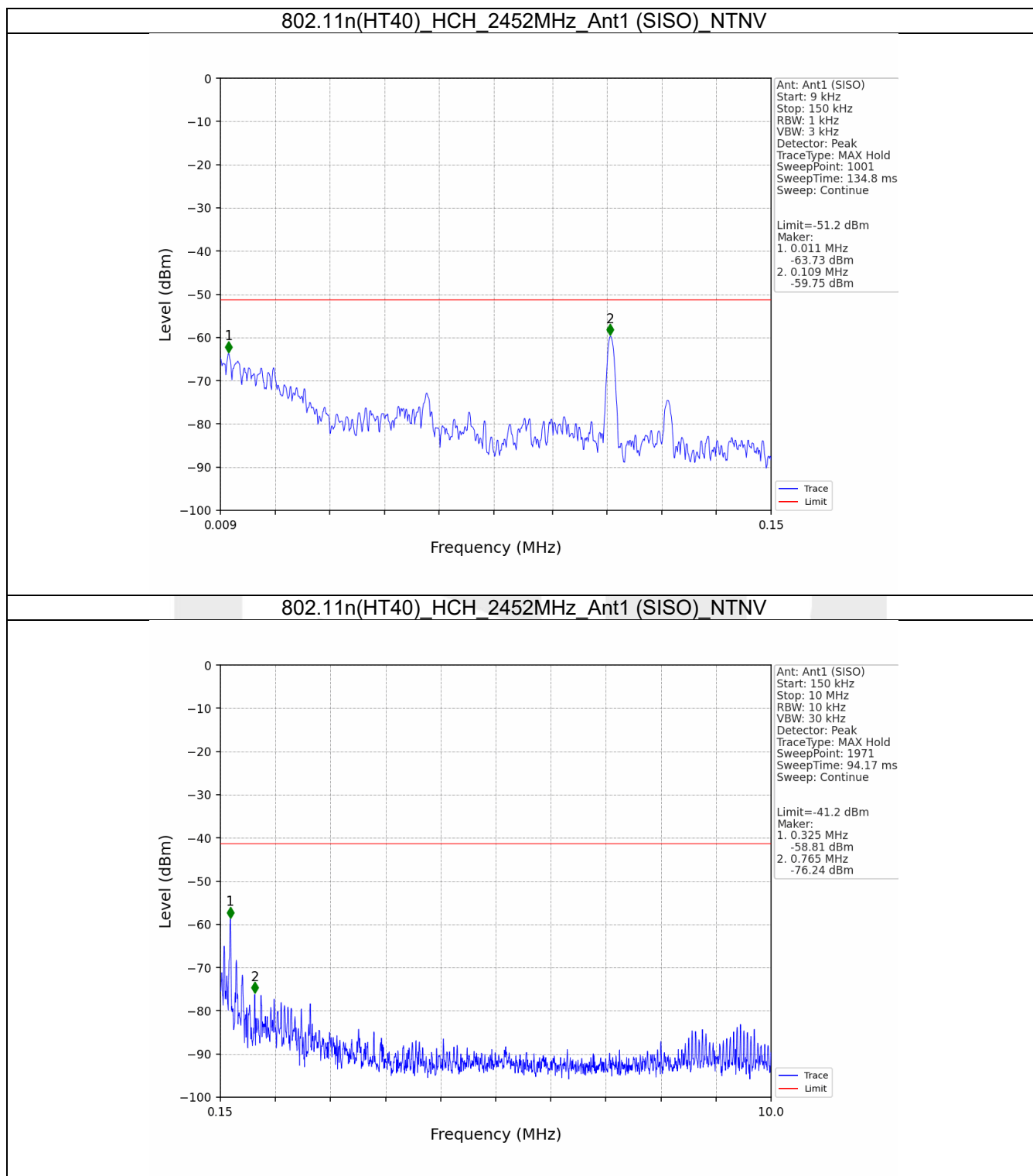


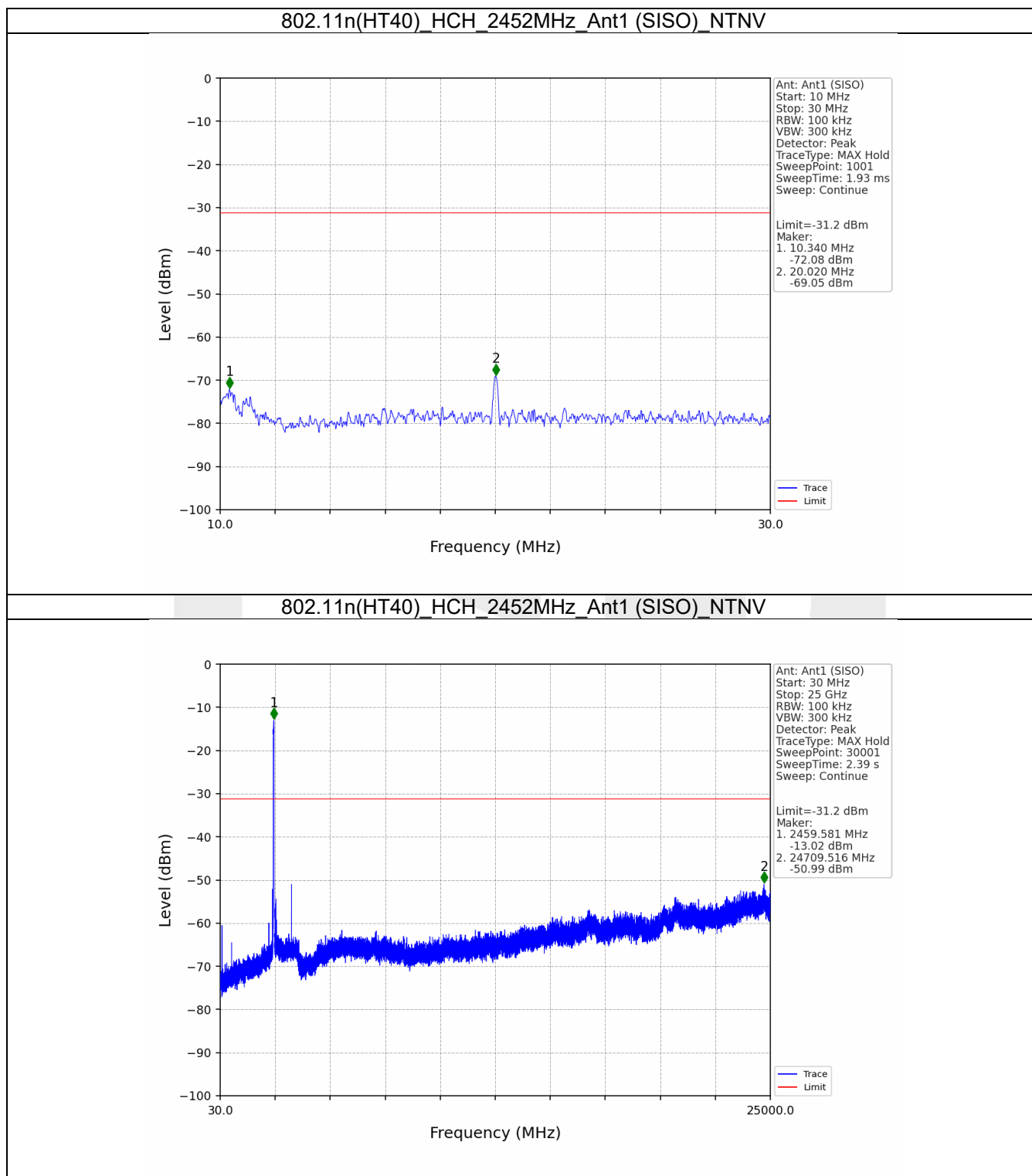












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